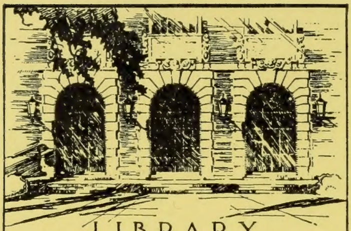

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Vol. III April 1911 No. IV

South Dakota State College of Agriculture and Mechanic Arts Bulletin

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Annual Catalog
1910 - 1911

Published Quarterly by
SOUTH DAKOTA STATE COLLEGE
Brookings, S. D.

Entered as second-class matter August 10, 1908, at
the postoffice at Brookings, S. D., under
Act of July 16, 1904

THE COLLEGE BULLETIN

The South Dakota State College Bulletin is Published quarterly by authority of the Regents of Education, in a regular series.

The Bulletin contains information in detail relative to the entrance requirements of the different courses of instruction, the schedules of study, lists of instructors of the institution and its administration, equipment, organizations, publications, funds, students' expenses, scholarship, prizes, etc.

The institution includes the following college departments: Animal Husbandry, Dairy Husbandry, Agronomy, Horticulture and Forestry, Veterinary Medicine, Home Economics and Domestic Art, Mechanical, Electrical and Civil Engineering, English, Modern Languages, History and Political Science, Philosophy, Mathematics and Astronomy, Physics, Botany, Entomology and Nature Study, Zoology, Chemistry, Pharmacy, Music, Art, Military Science and Tactics, and Commercial Science.

There is also the Preparatory Department, the Agricultural Experiment Station and the School of Agriculture.

Additional short special courses of instruction are given at the institution in Agriculture, Dairying, Home Economics, and Steam Engineering. Correspondence courses are also being arranged in Agriculture, Nature Study and Home Economics. Bulletins are sent free, postage paid, on request. The request should be indicate the department concerning which information is desired.

Address: The President, State College, Brookings, South Dakota.

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South Dakota State College of Agriculture and Mechanic Arts

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REGISTER PUBLISHING COMPANY
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1911/12-1913/14

Calendar of 1911-12

1911 FIRST SEMESTER

September 18-19—Entrance examinations and registration.
September 20—Work of first semester begins at 8 o'clock a. m.
September 29—Faculty reception to students.
November 1—Last day for announcing subjects for theses.
October 31—School of Agriculture opens.
November 30—December 1—Thanksgiving recess.
December 20—First term of School of Agriculture closes at 4:15 p. m.
December 20—Christmas vacation begins at 4:15 p. m.

1912

January 2—Christmas vacation ends at 8:00 a. m.
January 2—Second term of School of Agriculture begins.
January 29—February 2—Examination week.

SECOND SEMESTER

February 6—Second semester begins at 8:00 a. m.
March 28—School of Agriculture closes.
March 28—April 2, inclusive—Spring vacation.
May 27—Senior vacation begins.
June 3-7—Examination week.
June 9—Baccalaureate Sunday.
June 12—Commencement exercises at 10:30 a. m.

Calendar of Short Courses

January 2-June 7—Short course in Steam Engineering.
January 2-March 22—Three months creamery course.
January 2-January 12—Short courses in poultry husbandry, stock judging and corn judging.

Regents of Education

Hon. Albert M. Anderson	Sturgis
Hon. A. E. Hitchcock	Mitchell
Hon. T. W. Dwight	Sioux Falls
Hon. August Frieberg	Beresford
Hon. Henry Reinhardt	Eureka

Officers of the Board

Hon. A. E. Hitchcock	President
Hon. F. W. Ford	Secretary
Hon. George G. Johnson, (State Treasurer)	Treasurer

Regents' Committee for the College

Hon. A. E. Hitchcock .... Hon. T. W. Dwight

*Faculty

ROBERT LINCOLN SLAGLE, A. M., Ph. D., President.

A. B., Lafayette College, 1887; A. M., Lafayette College, 1890; Ph. D., Johns Hopkins University, 1894; Assistant to Professor W. O. Atwater in food investigation, Middletown, Connecticut, and New York City, 1894-1895; Professor of Chemistry, South Dakota Agricultural College, 1895-1897; President and Professor of Chemistry South Dakota School of Mines, 1897-1905; present position since 1906.

JAMES HENRY SHEPARD, B. S., Professor of Chemistry.

B. S., University of Michigan, 1875; Post-Graduate Student in University of Michigan, 1881-1882; Instructor in Natural Sciences, Ypsilanti, Michigan, High School, 1882-1886; present position since 1888.

HALVOR CHRISTIAN SOLBERG, M. E., Professor of Mechanical and Steam Engineering.

B. S., South Dakota Agricultural College, 1891; B. M. E., Purdue University, 1895; M. E., Purdue University, 1896; Professor of Practical Mechanics, South Dakota Agricultural College, 1891-1896; present position since 1896.

NIELS EBBESEN HANSEN, M. S., Professor of Horticulture and Forestry.

B. S., Iowa Agricultural College, 1887; M. S., Iowa Agricultural College, 1894; Commercial Iowa Nurseries, Atlantic and Des Moines, 1888-1891; Assistant Professor in Horticulture, Iowa Agricultural College, 1891-1895; Studied in Europe, 1894; Agricultural Explorer for U. S. Department of Agriculture to Europe and Asia, 1897-1898, and 1906-1907; to Siberia, Turkestan and Algiers, 1908-1909; present position since 1895.

HUBERT BERTON MATHEWS, M. S., Professor of Physics.

B. S., South Dakota Agricultural College, 1892; M. S., South Dakota Agricultural College, 1899; pursued special work at various times in the Universities of Michigan, Wisconsin and Nebraska; Superintendent of City Schools, Clark, S. D., 1892-1893; Assistant in Chemistry and Physics, South Dakota Agricultural College, 1893-1896; Professor of Physics, 1896,1899; Professor of Physics and Electrical Engineering, 1899-1906; Vice-President, 1904-1906; present position since 1909.

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*With the exception of the president, the names occur in the order of appointment.

BOWER THOMAS WHITEHEAD, M. S., Ph. C., Professor of Pharmacy.

Ph. G., South Dakota Agricultural College, 1895; Ph. C., Northwestern University, 1896; B. S., South Dakota Agricultural College, 1897; M S., South Dakota Agricultural College, 1901; present position since 1896.

GEORGE LINCOLN BROWN, Ph. D., Professor of Mathematics and Dean of the Faculty.

B. S., University of Missouri, 1892; Teaching Fellow in Mathematics, 1892-1893; M. S., 1893; Fellow in Mathematics, University of Chicago, 1894-1896; Ph. D., University of Chicago, 1900; Acting President South Dakota State College, summer and fall of 1908; present position since 1910.

EDWARD LOCKHART MOORE, B. S., D. V. S., Professor of Veterinary Medicine.

B. S., Cornell University, 1896; D. V. S., Columbian University, 1898; present position since 1898.

ADA BERTHA CALDWELL, Professor of Industrial Art and Preceptress.

Student Art Institute of Chicago, 1893-1897; Instructor in Art, Yankton College, 1897-1899; Professor of Industrial Art, South Dakota Agricultural College, 1899-1907; Student Teachers' College, N. Y., and Chase School of Art, N. Y., 1903-1904; Student Summer Course Handicraft Guild, Minneapolis, 1905, 1906 and 1907; Student Commonwealth Art School, Maine, during summer, 1910; present position since 1907.

ROBERT BLACKWOOD FORSEE, Pe. P., Principal of Preparatory Department.

Principal of Pedagogy, Western College, Missouri, 1888; Principal of Schools at Elgin, Mo., 1889-1891; Steffenville, 1892-1893; Estelline, South Dakota, 1895-1896; County Superintendent Hamlin County, South Dakota, Schools, 1896-1900; present position since 1901.

ALBERT SPENCER HARDING, A. M., Professor of History and Political Science.

B. S., South Dakota Agricultural College, 1892; Fellow in American History, University of Nebraska, 1896-1897; A. M., University of Nebraska, 1897; Assistant in History and Civics, South Dakota Agricultural College, 1897-1900; present position since 1901.

JAMES WILBUR WILSON, M. S. A., Director of the Experiment Station and Professor of Animal Husbandry.

B. S. A., Iowa Agricultural College, 1896; M. S. A., Iowa Agricultural College, 1898; Assistant in Agriculture at the Iowa Agricultural College, 1896-1897; Private Secretary to Secretary of Agriculture, 1897-1900; present position since 1902.

WILLIAM HOWARD POWERS, A. B., M. A., Librarian and Associate Professor of English.

A. B., Miami University, 1891; A. M., Harvard University, 1899; Student in the Graduate School, Harvard, 1899-1901; Instructor in Mathematics, Ohio Normal University, 1888-1889; Master of the High School, Marwich, Massachusetts, 1892-1895; Head of the Department of English, High School, Pawtucket, Rhode Island, 1895-1898; Professor of English, Huron College, 1901-1905; present position since 1905.

WILLIAM SOLOMON HAYES, A. B., Professor of French and German.

A. B., Harvard, 1899; Student in France, Germany, Italy and Spain, four years; Professor of Romance Languages, University of Vermont, 1900-1905; present position since 1906.

HOMER MUNRO DERR, A. M. Ph. D., Professor of Civil Engineering.

A B., Leland Stanford University, 1898; A. M., Columbia University, 1901; Ph. D., University of Pennsylvania, 1903; elected Scholar in Physics, Clark University, 1899, and Scholar in Geology, Columbia University, same year; Assistant in Physics, Columbia University, 1899-1901; Instructor in Mining Engineering and Geology, University of Wyoming, 1901-1902; Tyndall Fellow, University of Pennsylvania, 1902-1903; Superintendent of Mines and in charge of dam construction for hydraulic mining, Colombia, South America, 1903-1904; Professor of Mathematics and Civil Engineering, Clarkson School of Technology, 1904-1906; Engineer with South Dakota Railroad Commission 1908-1910; Assoc. M. Am. Soc. C. E.; present position since 1907.

ARTHUR A. BRIGHAM, Ph. D., Principal, School of Agriculture; Director of Summer School.

B. S., Massachusetts Agricultural College, 1878; Professor of Agriculture, Imperial College of Agriculture, Sapporo, Japan, 1888-1893; Ph. D., University of Goettingen, Germany, 1896; Professor of Agriculture, College of Agriculture and Mechanic Arts, Rhode Island, 1896-1901; Director Agricultural Experiment Station, Rhode Island, 1897-1901; Experimenting in Incubation, Ithaca, N. Y., 1901-1902; Director Columbia School of Poultry Culture, 1903-1904; Lecturer University of Nebraska, 1905-1906; present position since 1907.

EDGAR WILLIAM OLIVE, A. M., Ph. D., Professor of Botany.

B. S., Wabash College, 1893; S, M., Wabash College, 1895; A. M., Harvard University, 1897; Ph. D., Harvard University, 1902; Assistant in Botany, Harvard University and Radcliffe College, 1897-1898; Instructor in Botany, Harvard and Radcliffe, 1898-1903; Research Assistant of Carnegie Institution of Washington at University of Bonn, 1904-1905, and at the University of Wisconsin, 1905-1907; Lecturer in Botany, University of Wisconsin, 1905-1907; present position since 1907.

C. LARSEN, M. S. A., Professor of Dairy Husbandry.

B. S. A., Iowa State College, 1902; M. S. A., Iowa State College, 1904; Study of European dairying, 1900; Dairy Instructor, Massachusetts Agricultural College, 1901; Assistant and Associate Professor of Dairying, Iowa State College, 1902-1906; Professor of Dairy Husbandry, Utah Agricultural College, 1907; present position since 1907.

MADISON CLAIR BATES, A. M., Professor of English.

A. B., Williams College, 1904; A. M., Williams College, 1905; A. M., Harvard University, 1906; Instructor in English, University of Illinois, 1906-1907; Scholar in English, Graduate School, Columbia University, 1909-1910; present position since 1907.

***CLIFFORD WILLIS, S. B., M. S., Professor of Agronomy.**

Student at State Normal School, Illinois, Summer Sessions, 1894 and 1895; Student at Illinois Wesleyan University, 1898-1899; Sc. B., University of Illinois, 1900; M. S. in Agronomy, University of Illinois, 1906; Principal of Public Schools, Hudson, Illinois, 1893-1895; Principal of High School, Stanford, Illinois, 1895-1898; Head Teacher of Mathematics in High School, Champaign, Illinois, 1900-1901; Principal of High School, Urbana, Illinois, 1901-1903; Assistant in Soil Physics, College of Agriculture and Agricultural Experiment Station, University of Illinois, 1903-1905; Instructor in Soil Physics, College of Agriculture, and First Assistant in Soil Physics, Agricultural Experiment Station, University of Illinois, 1905-1908; present position since 1908.

FRANCIS J. HAYNES, Associate Professor of Music.

Graduated in vocal music from Hillsdale College, Michigan; Pupil of Mariscalchi; taught at various times in Western Reserve Seminary, West Farrington, Ohio; Bartell College of Music, Warren, Ohio; Streator Conservatory of Music, Streator, Illinois, and Michigan State Industrial School, Lansing, Michigan; Instructor in Vocal Music and Band Leader in South Dakota Agricultural College, 1906-1908; present position since 1908.

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*Resigned November 1, 1910.

JOSEPH NEWTON RODEHEAVER, A. M., Ph. D., Professor of Philosophy and Education.

B. S., Ohio Wesleyan University, 1901; A. M., Ohio Wesleyan University, 1902; Instructor in Philosophy and English, Ohio Wesleyan University, 1901-1903; Fellow in Psychology, Clark University, Worchester, Massachusetts, 1903-1904; Student in Philosophy, Graduate School, Boston University, 1904-1905; Acting Professor of English and Logic, Middlebury, Vermont, College, 1905-1906; Instructor in Logic, School of Expression, Boston, 1906-1907; Ph. D., Boston University, 1907; Instructor in Psychology and Public Speaking, Wabash College, 1907-1908; present position since 1908.

EDWARD R. CHRISMAN, Major U. S. Army, Professor of Military Science and Tactics.

U. S. M. A.,1884-1888; Second Lieutenant U. S. A., 1888; First Lieutenant, 1895; Captain, 1899; Sioux Indian Campaign, 1890-1891; Santiago Campaign, 1898; Philippine Insurrection, 1899-1902; Philippines, 1906-1907; Professor of Military Science and Tactics, University of Idaho, 1894-1898, 1902-1905; Adjunct Professor of Mathematics, University of Idaho, 1896-1898; Major, 1911; present position since 1909.

***J. V. BOPP, B. S., Associate Professor of Agronomy.**

B. S., University of Illinois, 1908; Illinois State Soil Survey, 1906-1907; Instructor in Agronomy, South Dakota State College, 1908-1909; present position since 1909.

BRYON BRIGGS BRACKETT, A. M., Ph. D., Professor of Electrical Engineering.

A. B., Syracuse University, 1890; A. M., Syracuse University, 1893; Certificate of Proficiency in Electrical Engineering, Johns Hopkins University, 1895; Ph. D., Johns Hopkins University 1897; Teacher of Mathematics, Dickinson Seminary, Williamsport, Pa., 1890-1892; Teacher of Higher Mathematics and Mechanical Drawing, Collegiate Department of Adelphi Academy, Brooklyn, N. Y., 1892-1893; Student-Instructor, Electrical Engineering Department of Johns Hopkins University, 1894-1897; Instructor in Electrical Engineering, Union College, 1897-1898; Teacher of Physics, Eastern High School, Washington, D. C., 1898-1900; Instructor in Electrical Science, Rutgers College, 1901-1903; Professor of Physics and Electrical Engineering, Clarkson School of Technology, 1903-1908; Professor of Electrical Engineering, Clarkson School of Technology, 1908-1909; Inspector of Torpedo Cable for U S. Army, summer of 1898; Electrical Engineer for Rowland Telegraphic Company, Baltimore, Md., 1900-1901; present position since 1909.

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*Resigned November 1, 1910.

NOLA K. FROMME, B. S., Assistant Principal, School of Agriculture.

B. S., in Domestic Science, Ohio State University, 1905; Instructor in Home Economics, South Dakota State College of Agriculture and Mechanic Arts, 1907-1909; present position since 1909.

HARRY C. SEVERIN, B. A., M. A., Professor of Entomology and Nature Study.

B A., University of Wisconsin, 1906; M. A., Ohio University, 1908; Fellowship in Zoology and Entomology, Ohio State University, 1908-1909; Assistant to State Entomoligist, Illinois, summer of 1909; present position since 1909.

JASON M. SAUNDERSON, A. B., Associate Professor of Mathematics and Director of Athletics.

A. B., Albion College 1908; Physical Training, Detroit Athletic Club, 1907; Director of Athletics, South Dakota State College, 1908-1910; present position since 1910.

ROBERTSON COOK, M. E., Professor of Experimental Engineering.

M. E., University of Minnesota, 1902; Assistant Instructor in Mechanical Engineering, University of Minnesota, 1903; Engineer with Oliver Iron Mining Company, Duluth, Minnesota, 1904; Mechanical Engineer for the Western Lime and Cement Company, Milwaukee, Wisconsin, 1904-1908; Instructor in Mechanical and Steam Engineering 1908-1910; present position since 1910.

SHIRLEY PUTNAM MILLER, B. S., M. A., Professor of Zoology.

B. S., South Dakota State College, 1903; M. A., University of Minnesota 1905; Student at Minnesota Sea-side Laboratory, Vancouver Island, 1902-1904; Instructor in Zoology South Dakota State College, 1905-1908; Student at the Anatomical-Biological Institute, Berlin and the University of Munich, 1908-1910; Investigator in Russian Zoological Laboratory, Villafranche, on the Mediterranean; present position since 1910.

GEORGE ARTHUR STARRING, A. B., Professor of Commercial Science.

A. B., Huron College, 1907; Graduate Huron Business College; Rochester Seminary, N. Y., 1907-1908; University of Chicago, 1908-1909; Summer Quarter, University of Chicago, 1909; Instructor in Commerce and Economics, Sioux City High School, 1909-1910; present position since 1910.

EDMUND SERENO ENDER, Professor of Music.

Graduate Music Department, Yale University, 1903; Post Graduate, Institute of Musical Art, New York City, 1905; pupil of Franz

Grunicke, Berlin, and other European Masters; present position since 1910.

MARY TOUGH, Professor of Home Economics.

Graduate Normal Domestic Science Department of Pratt Institute, 1898; Instructor in Domestic Science and Art in Chicago University School of Education, 1898-1901; Instructor in Normal Domestic Science Department in Pratt Institute, 1901-1910; present position since 1910.

Instructors and Assistants

HOWARD H. HOY, B. S., M. S., Instructor in Physics and Electrical Engineering.

B. S., South Dakota Agricultural College, 1896; M. S., South Dakota Agricultural College, 1903; pursued special work in electrical engineering in the Universities of Nebraska and Wisconsin; Instructor in Mechanical and Electrical Engineering, South Dakota Agricultural College, 1899-1904; present position since 1904.

MAUD GODDARD, Instructor in Industrial Art.

Student Art Institute, Chicago, 1903; Student Summer Course, School of Fine Arts, Minneapolis, 1907; Student Chautauqua Summer School, N. Y., 1909; Student Commonwealth Art School, Maine, Summer of 1910; present position since 1903.

CARL CHRISTENSEN, Instructor in Violin and Other Instruments.

Student under Professor Christian Madsen, of Copenhagen, Denmark; also studied with C. F. Toenniges, of Davenpart, Iowa, 1900-1901; and with Alfred Speil, Minneapolis, 1908-1909; present position since 1906.

CARRIE LOUISE PHILLIPS, B. S., M. S., Assistant Librarian.

B. S., South Dakota Agricultural College, 1901; M S., South Dakota Agricultural College, 1905; obtained library certificate from Wisconsin Library School at Madison, Summer session, 1907; present position since 1906.

***GERTRUDE S. YOUNG, A. B., Instructor in Preparatory Department.**

A. B., University of Wisconsin, 1906; present position since 1907.

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*On leave of absence, 1910-1911.

AMY KELLY, B. S., Instructor in the School of Agriculture.

B. S., South Dakota State College, 1908; Graduate work at Illinois University, 1908-1909; Dietitian at Passarant Hospital, Jacksonville, Ill., June to November, 1909; present position since 1909.

ORLAND E. WHITE, B. S., Instructor in Botany.

B. S., South Dakota State College, 1909; Research student of Genetics at Harvard, summer of 1910; present position since 1909.

RUTH MARIAN WESCOTT, B. S., Instructor in Piano.

B. S., South Dakota State College, 1907; Graduate American Conservatory of Music, Chicago, 1909; present position since 1909.

GRACE F. SMILEY, B. S., Instructor in Home Economics.

B. S., Ohio State University, 1909; present position since 1909.

W. D. GRIGGS, B. S., Assistant in Agronomy.

B. S., Purdue University; present position since 1909.

BENJAMIN LEE THOMPSON, B. Sc., Instructor in Animal Husbandry.

B. Sc., in Agriculture, Ohio State University, 1908; Professor in Animal Husbandry and Dairying, Dunn County School of Agriculture, Menominee, Wis., 1908-1909; present position since 1909.

JOHNSON SARVIS, B. S., Instructor in Botany.

B. S., South Dakota State College, 1909; present position since 1909.

WILLIAM WHITE, B. S. A., Instructor in Dairy Husbandry.

B. S A., University of Minnesota, 1908; Student-Instructor in Farm Dairying, University of Minnesota, 1906-1907; Special Student in Dairy Husbandry, University of Wisconsin, 1907-1908; Buttermaker for Spring Lake Butter and Cheese Co., Spring Lake, Wis., 1908; Buttermaker and manager of Milk and Butter Department of Calumet Dairy Co., Chilton, Wis., 1909; present position since January, 1910.

HALLIE HYDE, B. S., B. A., Instructor in Preparatory Department, and Assistant in Domestic Science.

B. S., South Dakota State College, 1908; B. A., in Domestic Science, University of Illinois, 1910; present position since 1910.

DEXTER E. BAILEY, Assistant in Dairy Husbandry.

B. S., Massachusetts Agricultural College, 1910; present position since July 1910.

W. H. IRVINE, B. S. A., Assistant in Dairy Husbandry.

B. S. A., Ontario Agricultural College, 1909; Manager Elmhurst Dairy Montreal West Quebec, 1909-1910; present position since September 1910.

JOHN A. BONELL, Instructor in Shopwork.

Stout Institute, 1904; State Normal School, Oshkosh, Wis., Summer 1905; Assistant and instructor of farm mechanics, Marathon County School of Agriculture, Wausau, Wis., 1905-1910; Stout Institute, summer 1910; present position since 1910.

HOWARD LOOMIS, A. B., Assistant in Agronomy.

A. B., Albion College, 1909; Instructor Chemistry and Physics, Union City, (Ind.), High School, 1909-1910; present position since 1910.

C. M. WOODWORTH, B. S., Assistant in Agronomy.

B. S., A. & M. College of Oklahoma, 1910; present position since July, 1910.

H. HOWARD BIGGAR, B. S., Assistant in Agronomy.

B. S., South Dakota State College, 1910; present position since July, 1910.

B. A. DUNBAR, Assistant Professor of Chemistry.

A. B., Ohio Wesleyan University, 1891; A. M., Ohio Wesleyan University, 1892; Instructor in Mathematics and Physics, Hillsboro Normal College, Hillsboro, Ohio, 1891-1893; Instructor in Physics, High School, Ironton, Ohio, 1893-1895; Supt. of Schools, Michigan, Wyoming, Minnesota and North Dakota, 1895-1910; Student in Chemistry, University of Chicago, 1909-1910; present position since January 1911.

Other Officers and Employes

R. A. Larson	Secretary
Mary I. Grove	Registrar
Nina A. Waters	Matron of Dormitory

R. O. Wilson	Secretary to the President
M. M. Johnson	Station Stenographer
George E. Purdy	Janitor and Carpenter
A. T. Larson	Engineer
Fred C. Stoltenberg	Florist

Faculty Committees 1910-11

Classification	Brown, Whitehead, Moore, Bates, Forsee
Deportment	Harding, Mathews, Powers, Wilson, Brown, Moore, Larsen
Absence and Tardiness (College)	Whitehead, Derr, Olive, Bates, Cook
Absence and Tardiness (Prep.)	Forsee, Mathews, Starring
Athletics	Mathews, Larsen, Saunderson
Library	Powers, Hayes, Brackett
Social affairs	Chrisman, Hansen, Miss Tough
Religious Affairs	Rodeheaver, Miss Caldwell, Brackett
Student Organizations and Publications	Miller, Solberg, Harding
Electoral College, Students' Association	Harding, Severin, Ender
Board of Control, Students' Association	Brown, Rodeheaver, Saunderson

Members of Station Council

A. E. Hitchcock	Member Regents' Committee for the College
T. W. Dwight	Member Regents' Committee for the College
Robert L. Slagle	President of the College
James W. Wilson	Director and Animal Husbandman
Niels E. Hansen	Vice Director and Horticulturist
James H. Shepard	Chemist
Edward L. Moore	Veterinarian
Edgar W. Olive	Botanist
Christian Larsen	Dairy Husbandman
Albert N. Hume	Agronomist

GENERAL INFORMATION

A==Historical

1. Establishment. An act of Congress approved July 2, 1862, gave to each state 30,000 acres of pubilc land for each representative in Congress towards "the endowment, support and maintenance of at least one college, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and mechanic arts." In compliance with this act the territorial legislature of 1881 passed an act establishing an agricultural college at Brookings, in the Territory of Dakota.

The legislature of 1883 provided for the erection of the first building. This building, now known as the Central Building, was erected in 1884.

Upon the division of the Territory of Dakota into the States of North and South Dakota when they were admitted into the Union in 1889, the Agricultural and Mechanical College of Dakota became known as the South Dakota Agricultural College. In the Congressional act providing for these colleges they were spoken of as "College of Agriculture and Mechanic Arts," and in the act of the legislature establishing this institution it was designated "the Agricultural and Mechanical College," In order that the name may more nearly conform to the object for which the College was established, the legislature of 1907 changed it to "The State College of Agriculture and Mechanic Arts."

2. Location. The College is located upon an eminence one mile from the business center of the city of Brookings, and four miles from the Big Sioux River. Brookings is situated on the Central Dakota Division of the Chicago and North-Western Railway, the Watertown branch of the same road making con-

nection with the main line at this point. It has a population of about three thousand five hundred thrifty, intelligent and hospitable people. The city is lighted by electricity and has a complete water and sewer system.

The streets are lined with trees and there are very few houses without well kept lawns, upon which are growing trees, beautiful flowering shrubs and plants. It has often been called the City of Homes.

It is a city of clean morals. No saloon has been allowed within its limits for several years. In the spring election of 1898 the proposition to allow saloons within the city limits was defeated by a vote of three to one, and in the general election of 1896 Brookings County was the banner county of the state in its vote against allowing intoxicating liquors to be sold in the state.

3. SOURCES OF INCOME. By the congressional act under which South Dakota became a state, one hundred and sixty thousand acres of land were set aside as an endowment for the South Dakota College of Agriculture and Mechanic Arts. These lands have all been selected; very little has yet been sold. A small amount is now being received yearly as rental from the selected lands.

No school lands can be sold for less than ten dollars per acre, so that these lands, when sold, will probably yield an endowment of two million dollars, the interest from which will be sufficient for the needs of the College.

The Morrill Act passed by Congress in 1890 provides a yearly appropriation for "the more complete endowment and support of colleges for the benefit of agriculture and mechanic arts." Under this act the College now receives from the general government the sum of $25,000 per annum.

An act making appropriation for the Department of Agriculture, approved March 4, 1907, makes provision for the further endowment and support of these colleges. The bill, which was introduced by Senator Knute Nelson of Minnesota, stipulates that the expenditure of the fund shall be governed in all respects by the provisions of the Morrill Act, and also that a portion of the money may be used to provide for the training of instructors in agriculture and mechanic arts. This act made an appropriation of $5,000 for the year 1907-1908, which is increased $5,000 each year until it reaches $25,000 per annum.

The College also receives aid from the State, biennial appropriations being made by the legislature for maintenance and buildings. The legislature of 1911 appropriated $50,500 for maintenance during each of the next two years, and $104,000 for building purposes.

4. PURPOSE. The College is devoted to advancing the interests of practical education, its purpose being to give men and women such training as will best fit them for the active duties of life. Although the work of the institution is largely scientific, it is of such diversified character that the student can pursue studies along almost any line which his tastes dictate. A constant effort is made to reach the masses of the people in the state and interest them in the application of science to industrial pursuits and in the more general improvement of their home life and every day activities.

5. EXPERIMENT STATION. This department was organized under the Hatch Act of Congress, which provides for the establishment of agricultural experiment stations in connection with agricultural colleges, and allows $15,000 per year for the maintenance of the same. "It shall be the object and duty of said experiment station to conduct original researches, and verify experiments on the physiology of plants and animals,"—here some twenty other lines of research are enumerated—"and such other experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying conditions and needs of the respective states; to aid in acquiring and diffusing among the people of the United States useful and practical information on the subjects connected with agriculture." The South Dakota station conducts its investigations principally upon the following lines: live stock, soil, field experiments, greenhouse work, trees and small fruits, chemistry of plant growth and foods, economic botany, entomology and zoology.

The Adams Act passed by Congress in 1906 increased the annual appropriation to agricultural experiment stations. This act carried an appropriation of $5,000 for the first year and increases it $2,000 each year until it reaches $15,000 per annum. The first appropriation under this act became available July 1st, 1906.

In planning the work of the station the main object sought is to assist the agricultural interests of the state. Education is derived from this in two ways: first, from the students' observation of the actual work; second, by reading the accounts and results of the work which are published in the form of bulletins and are available to anyone applying.

In order that the experiment work of the station may meet the needs of the different sections of the state where varying conditions prevail, several sub-stations have been established. Such work is now being carried on at Highmore, Eureka and Cottonwood.

B==Equipment

1. CAMPUS. The college campus of thirty acres is beautifully located on an eminence within the corporate limits of Brookings. It is ornamented with choice and tasteful varieties of trees and shrubs and laid out with necessary drives and walks. Adjoining on the rear is a fifty-acre plat which is devoted to horticultural gardens and the United States forestry experiments. This portion is laid out regularly in suitably sized plats with longitudinal streets at appropriate distances apart, thus giving a beautiful and symmetrical effect when viewed from the college buildings.

2. BUILDINGS. The oldest building on the campus, a three-story brick structure called the Central Building, was completed in 1885, and is devoted to administrative and instructional purposes. The Station Building, also a three-story building, is occupied principally by the experiment station laboratories. The North Building is a four-story brick building, the first floor of which is used as a chapel room, the floors above furnishing quarters for the art and domestic science departments. The

Chemistry and Pharmacy Building, the Drill Hall and the Creamery are all two-story buildings which are well equipped with apparatus.

The Engineering and Physics Building, the Plant Breeding Building and the Greenhouse, add much to the beauty of the campus, and furnish ample room for the departments which occupy them.

A splendid brick dormitory for young women stands on a site just across the street from the campus.

The central heating and electric light plant occupies a brick structure back of the main building.

Near the campus on the adjoining college farm are located the Agricultural Barn and the Dairy Barn, together with a number of smaller buildings which are devoted to agricultural purposes.

The State Legislature at its last session appropriated $100,000 for a main building, this amount to be available in 1912. At the same time an appropriation of $4,000 was made for the purpose of enlarging the Creamery Building.

3. FARM. Set apart as the college farm is a tract of four hundred and eighty acres near the campus, about sixty acres of which are used by the Agricultural Experiment Station as an experimental farm. Here the field experiments with field crops, seed germination and soil preparation are conducted, and the student can witness and actually participate in this scientific work. The remainder of the farm is used as a model stock and dairy farm under the direction of the professor of animal husbandry. Practical work and experiments involving the best farming practices for this region are given the students.

4. LABORATORIES. The work of the institution being so largely scientific in nature, well fitted laboratories have been provided in all those departments where their use is made necessary by the most modern and approved educational methods. The farm with its equipment, together with the horticultural gardens and greenhouse, serve as a laboratory for the departments of horticulture and agriculture.

5. MUSEUMS. The idea that museums are valuable in af-

fording illustrative material for study has obtained in the collection of the various specimens and in their arrangement in the several department museums. The zoological, botanical, geological, art and engineering departments have made especially good beginnings in getting together material for that purpose. Constant additions are being made, thereby increasing their worth as adjuncts to laboratory work. The different collections are kept in the departments to which they belong.

6. LIBRARY AND READING ROOM. The library, occupying rooms on the first floor of the Central Building, contains over 10,000 bound volumes and about 6,000 pamphlets. The institution is a repository for the government and contains a set of government publications dating from 1886. Many of the more valuable sets have been extended to an earlier date. Care has been exercised in the selection of books, in order that each department may have proper reference books at the disposal of the students. The books are arranged according to the Dewey system of classification and are completely catalogued in the card catalogue. The library also receives the cards from the government, cataloguing the bulletins of the experiment stations and the publications of the United States Department of Agriculture. The files of many standard scientific and literary periodicals are kept bound. The reading room is abundantly supplied with current periodicals and newspapers. The library is open nearly all the time, day and evening, and at the disposal of students for the purpose of study and reading. Someone is in charge at all times to give help and information to those using the library.

7. GYMNASIUM AND ATHLETIC GROUNDS. The Gymnasium is devoted to the athletic training and the military drill of the boys during the months when the weather is too rigorous for such work to be done outside. In connection with the gymnasium a tract of land near the college buildings is used as a place for holding outdoor exercises and sports of an athletic character.

8. DORMITORY. Originally the institution provided dormitories for both sexes, but the attendance increased so that it was

necessary to convert the dormitories into rooms for the departments. For a period of years no living arrangements in connection with the College were provided; but increased difficulty in securing rooms in the city induced the legislature of 1907 to make an appropriation of $50,000 for a dormitory for the young ladies. This building was completed in the fall of 1908. For particulars concerning board in the dormitory, see paragraph 4 under "D."

9. HEATING AND LIGHTING. The buildings are all heated with steam generated in a central heating plant. This plant also furnishes steam for running the machinery in the shops and for generating electricity for lighting the buildings on the campus.

10. POSTAL FACILITIES. The College furnishes first-class postal facilities, the mail of the students being delivered in one of the buildings at convenient times during the day, making it unnecessary for them to walk to the city postoffice.

C==Administration

1. GOVERNING BOARD. By an act of the legislature approved March 10, 1897, provision was made for the appointment of the Regents of Education, who should have charge of all the educational institutions of the state.

The law is, "The Governor, by and with the consent of the senate, shall appoint five persons of probity and wisdom from among the best and best known citizens, residents of different portions of the state, none of whom shall reside in the counties in which any of the state educational institutions are located, who shall be designated as the Regents of Education." The terms of office of these regents are each six years, and expire at different times, thus making a continuous body. Vacancies are filled by the Governor during the recesses of the senate. "The board shall organize by electing one of their members president, and by the election of a secretary. Thus qualified and organized they shall have authority to make such rules as are necessary for their own government as a board and shall immediately assume the exclusive control and management of all the educational institutions which are maintained either wholly or in part by the State." Along this line the powers and duties of the regents are defined, among which important ones are, to employ members of the different faculties and other agents, to determine the proper number of teachers in said faculties, also their compensation and terms of employment, to establish departments, to settle upon courses of study, to determine the rules to be enacted for the government of students, to decide upon text books to be used, to fix tuition fees, to guard against unwise duplication of departments, to confer degrees, to control the Agricultural Experiment Station, and to promote education among the farmers by providing for institutes; in fact, to make all regulations as to the executive and instructional functions of the educational institutions of the state. The regents govern the College largely through a regents' committee.

2. FACULTY. The faculty, consisting of the president and professors, all of whom are elected by the regents, determines in large part the general policy of the College. The professors are heads of the different departments of instruction which they represent and are responsible to the president, who is in charge of all matters of administration. The president, in turn, is responsible to the regents for the whole work of the institution. In order to aid the president in his executive duties, he appoints, at the beginning of each college year, certain faculty committees, which take up such work as may be assigned them by the president and facult,y, and thus greatly facilitate the transaction of business and economize the time of the faculty.

3. STUDENT AFFAIRS. Students are allowed wide latitude in carrying on affairs which vitally concern themselves, such as athletics, literary, musical and social organizations. The faculty retains an advisory interest in all these matters, and aims to assist the students in every possible way in making these activities especially helpful to the student body as a whole. In the matter of social affairs the faculty is disposed to allow a reasonable amount of time for recreation, and endeavors to contribute as far as possible towards making the students happy and contented.

4. STUDENTS' LIVING ARRANGEMENTS. The faculty maintains the right to pass upon the living arrangements of every non-

resident student. Residents of the town with whom students are boarding or lodging are requested to co-operate with the faculty in the effort to improve the general condition of the students by exercising over them a careful supervision and reporting to the faculty any misconduct on the part of the students which may come to their notice. Upon coming to Brookings students should report at once at the president's office, where they will be furnished all possible information with reference to living arrangements.

5. STUDENTS' CONDUCT. The chief end of school life being to obtain thorough mental and moral discipline, it becomes incumbent upon the faculty to make the conditions as far as possible conducive to that attainment. No set regulations are expected to cover every contigency arising, but it is necessary that all students should recognize the fitness and importance of such as are in force, and co-operate in securing their observance. The faculty has the right at any time to pass reasonable rules that they may consider for the welfare of the College. In the absence of any rule applying, the student's own good judgment should suggest the proper procedure.

D==Special Information for Students

1. TIME TO ENTER. Students are admitted at any time and assigned to such classes as they are found best fitted to enter, but it is much better to commence at the beginning of the college year. No reduction in college fees is made when the student enters after the beginning of the term, and if a student enters later he will not under any condition be allowed to hold a class back. If a tardy beginning is imperative the student must arrange for assistance in bringing up his work, in order that he may go on understandingly and without hindrance to the class.

2. TERMS AND VACATIONS. The college year in divided into two semesters. The principal vacation of the year occurs in the summer, from the early part of June until the middle of September. College exercises are suspended in time for students to reach home before Christmas day, the holiday recess extending over about two weeks. A spring vacation of one week is also

given about the middle of the second semester. For the calendar of the college year see page 3.

3. EXPENSES OF STUDENTS. The tuition for regular work extending throughout the year is six dollars per semester, or twelve dollars per year. A student who enrolls must pay the full tuition for the semester or term. A laboratory fee of two dollars per semester is charged for the use of each laboratory in which the student takes work. Books and other supplies are furnished by the student.

By action of the regents the tuition and incidental fees and laboratory fees, after having been paid, will in no case be refunded; but music, dormitory and other fees may be refunded at the discretion of the president of the College, if the student is called away before the end of the term or semester by unavoidable causes.

Special fees are charged for instruction in music in the college. (See the department of music.)

Good rooms can be secured in the city at private houses or hotels. There are also many places where rooms and board can be obtained at reasonable rates. The new dormitory provides a large number of young women with comfortable homes at a reasonable cost.

An estimate of the yearly expenses of a student is as follows:

Board and Room	$180.00
Tuition	12.00
Fees in Student Association	6.00
Laboratory fees	10.00
Books and Supplies	25.00
Laundry Expenses	20.00
Incidentals	25.00
	$278.00

Men students are expected to purchase military uniforms which range in cost from $12.00 to $18.00.

While the above is considered as a reasonable estimate, many students go through the year on a much less amount. Much depends upon the character of the student and the work he is taking.

Every effort is made by the officers of the institution to secure suitable and satisfactory boarding places for students. A list of approved available places for boarding or rooming can be obtained at any time from the president of the College. The Christian Associations make it a point at all times to assist new students in finding proper living accommodations. If prospective students will write to the Young Men's or Young Women's Christian Association of the College, officers of these organizations will be glad to arrange to meet them at the train and help them to secure boarding and rooming places.

4. DORMITORY. This building, which was completed in the fall of 1908, is 120 by 50 feet in dimensions and three stories in height in addition to basement. In addition to preceptress and other lady teachers, matron and servants, it will provide a home for sixty women students.

Besides the general parlors and reception hall on the first floor, the second floor contains a general sitting room, while on the third floor is a recreation hall suitable for parties and plays which are attended by girls only. Two bath rooms, toilet rooms and lavatories are also on each floor. In addition, each room is provided with a large closet, a stationary wash stand with hot and cold water.

Precautions have been taken to reduce danger from fire to a minimum. It is heated by steam, lighted by electricity, and in every respect has the latest improvements and conveniences.

Each room is provided with two single cots or beds with mattress and pillow, two straight chairs, study table, dresser with mirror, rug and window shades. Bedding, towels and other articles must be provided by the students. Each girl should provide herself with mattress pad, two pairs of pillow cases, three sheets, two pairs of blankets, napkin ring, six towels and a clothes bag.

The basement is provided with a large dining room, kitchen, store rooms, laundry and rooms for the help. Here a boarding club is conducted under the supervision of an experienced matron. Every effort is made to provide wholesome fare at minimum cost to the students. The cost during the year 1909-

1910 was $2.85 per week. The club is conducted on the cooperative plan. Payment for board at the rate of $3.00 per week must be made for four weeks in advance, and at the end of the year any unexpended money will be returned to the students. No deduction for board will be made for less than a week's absence.

Occupants of the building will be entitled to the laundering of a limited number of articles without extra cost.

The cost of rooms in the hall varies from $12 on the third floor to $14 on the first floor per semester for each occupant, two in a room. This fee includes both light and heat. The room rent is payable in advance. It is expected that two young women will occupy a room. The occupants will be expected to take care of their own room.

A student desiring room reserved for her must forward $2.00 with her application. This will apply on the regular room rent for the semester. In no case will this advance payment be refunded.

STUDENT LABOR. There is a limited amount of paid labor about the institution which can be done by students and it is the policy of the college authorities to give as much work to deserving students as is consistent with the best interests of all. However, no one should expect to earn his entire expenses while at college and doing school work, or be assured of an income in advance from paid labor.

6. SCHOLARSHIPS. The following article from the law, defining powers and duties of the regents of education, is self-explanatory: "The Regents of Education shall fix all rates of tuition and other fees to be paid by students, but such rates must be the same in all different institutions. They may receive free of tuition two students appointed by each senator and one by each representative of the state legislature in any one of the institutions under their control, provided that the period for which appointment is made shall expire with the term of office of said senator or representative, and provided that such appointees shall comply with all the rules and requirements of the institution which they desire to enter. No student, however, shall receive any other gratuity whatever." The regents of education

make this article operative in the case of this institution.

7. CO-EDUCATION. Recognizing the value of industrial training as a feature of a practical institution for the masses, the College authorities have provided the various shops and laboratories in which the young men of the state become familiar with the use of the different tools required in the principal mechanical industries. These special facilities are not confined to the young men, but special departments such as home economics, art and music have been established, so that the young lady students may have opportunities to fit themselves for a keener appreciation of the realities and enjoyments of life in the home, the school room, the store, the office or the factory. The young woman will profit as much by the introduction of rational methods into her education as the young man, and while the shops, studios and laboratories may be used in some instances by the young men, and in others by the young women, they are all open to both and often students of both sexes will be seen working side by side. Instead of military drill the young lady students are required to take physical culture.

8. MILITARY REQUIREMENTS. The national law organizing and endowing these agricultural colleges requires that military science shall form part of the instruction offered. All male students taking regular work in the college are required to do certain work in this department, unless excused because of physical disability or some other grave reason. Certificates of disability should be obtained from the physician whom the College authorities have designated for such work, the College bearing the expense of the examination. For further regulations governing this work see the military department.

3. PHYSICAL CULTURE. Physical culture is required of female students twice a week for the first three continuous years of the time they are students in the institution, or until the sophomore year is completed. Students taking physical culture will furnish special costumes for the same as indicated by the instructor. In regard to excuses from physical culture, the same rule holds as in military exercises.

10. CHAPEL EXERCISES. Chapel exercises are held at appointed times and all students are cordially invited to attend.

The exercises on Tuesday usually consist of announcements and an address by some competent person. Attendance on Tuesdays is required of all students.

11. STUDENT ACTIVITIES. In the matter of student activities, the greatest freedom consistent with the general welfare is allowed. The faculty reserves the right at all times, however, to exercise over these matters whatever supervision may seem to them desirable.

12. THE STUDENT ASSOCIATION. The athletic, debating and oratorical interests and the college paper, the Collegian, are under the control of the Student Association, which governs these activities by means of a board consisting of students and members of the faculty. A fee of three dollars each semester is charged for membership, which admits to all student exercises under the supervision of the association.

13. ATHLETIC ASSOCIATION. Many forms of athletic exercises are practiced and are recommended and encouraged by the officers of the college. Under the auspices of the local organization and a number of college athletic associations of the state, all kinds of athletic sports are practiced and encouraged. The local representatives contest at the "State Meet" once a year for athletic honors. Students should understand, however, that their studies must receive the first consideration; and that the purpose of athletic exercise is to develop gentlemanly and ladylike qualities in those who participate in them.

14. LITERARY SOCIETIES. A generous and fruitful rivalry for college honors exists between these societies, stimulating each to its best efforts. They are an important factor in the students' education and all are strongly advised to become members. All preparatory students are expected to become members of the Franklin society. The work of this society is carried on under the supervision of the head of the preparatory department and is a preparation for college society work. The faculty, realizing the value of society work, has offered a trophy to be competed for by the Athenian and Miltonian Literary Societies. These societies are composed entirely of college students and meet in their respective halls on every Saturday evening.

15. CHRISTIAN ASSOCIATIONS. In the state schools the Young

Men's and Young Women's Christian Associations occupy unique positions. They are the only organizations whose primary object is the moral development of the student body. Their platforms are broad enough to allow every student, who stands for cleanness and kindness, to affiliate himself or herself with them. The purpose of the associations is to present the value of Christian living to the student and to the state, and to create an atmosphere of good-fellowship among brotherly men and womanly women. The Young Men's Christian Association is personally supervised by a secretary who is engaged to spend a large part of his time at the South Dakota State College. The Young Women's Christian Association is supervised by the state and international college secretaries.

16. ORATORICAL AND DEBATING INTERESTS. Each year a representative of the College selected in a preliminary contest is sent to the intercollegiate oratorical contest of the state. In order that this contestant may fully represent the college, the faculty has imposed the requirement that those competing for this honor must be pursuing regular work for the Bachelor's degree.

Credit for three hours work during one semester is given those who take part in an intercollegiate debate.

17. OTHER ORGANIZATIONS. Among other organizations may be mentioned the Athletic Association, which concerns itself with the athletic interests of the college; and technical societies, such as the Art Club, Pharmacy Club, Choral Union, Euterpe Society, etc., each occupying its own sphere of influence.

18. STUDENT PUBLICATIONS. "The Industrial Collegian" is a weekly magazine published by the students of the college. It aims not only to be the organ of the student body but a mirror of student life at this institution. The editorial staff is composed of the Editor-in-Chief, a Business Manager, and one member selected by each regularly organized literary society in the College. The Editor-in-Chief and Business Manager are selected by the students who are at the time of such election bona fide subscribers of the paper.

"The Jack Rabbit," an annual publication by the junior class, is a good representative and exponent of college life.

19. GENERAL CONDITIONS OF ADMISSION. The candidate for admission to the College must be at least fourteen years of age and of good moral character. Students applying for entrance to the preparatory department must present evidence that they have completed the work of the public schools as far as the ninth grade, and no one is allowed to pursue the work of the freshman year or higher work until grades in the preparatory years have been obtained.

20. TIME OF ENTRANCE EXAMINATIONS. The first two days of the first semester will be devoted to examining students applying for admission, both to the College and the preparatory department.

21. ENTRANCE CONDITIONS. A student may be admitted to the College without having passed in one or two of his entrance studies. These shall stand against him and must be cleared up within one year after entrance or the student will be required to take the subjects with the regular classes.

22. CREDITS FROM EXAMINATIONS. Students will be allowed to take examinations in any subject offered without being regular members of the class pursuing that subject, if they have standings in all the prerequisites to that subject, provided that the head of the department concerned is convinced that the subject has been covered in a satisfactory manner; and having passed in the subject, students shall receive credit therefor.

23. ADMISSION FROM OTHER INSTITUTIONS. Students will be admitted to the College upon certificates from other reputable institutions, provided that these show that the students were honorably dismissed from those institutions, and have satisfactorily completed the work for which credit is asked. Standings from other institutions should be presented at the College when the student applies for entrance. The College reserves the right, however, to cancel grades accepted from other schools should the student be found deficient in the subjects for which credit is given.

24. SPECIAL STUDENTS. Students of mature years who have passed in the work of the preparatory department may be allowed to pursue special studies if not candidates for a degree,

but they must satisfy the faculty that they are qualified to take up the studies desired.

25. SUBJECT DEFINED. A full subject is one which requires five periods of lecture, recitation or laboratory work per week. The lecture and recitation periods are each one hour, the laboratory periods two hours in length. The nature of a study and the number of periods per week are indicated by the small letters *a* and *b* together with numbers, written immediately after the name, *a* signifying lecture or recitation work, *b*, laboratory work.

26. METHOD OF REGISTRATION. New students should first present their standings from the public schools or other educational institutions to the committee on entrance requirements who will assign them to the proper classes. The student should then obtain a classification card in the registrar's office upon which is written the names of the subjects to be pursued, according to the rules governing classification. The classification committee of the faculty will furnish all possible assistance in classifying students. New students must also fill out and file with the registrar cards giving desired information concerning themselves. Upon receipt of the fees for the term, the secretary of the college stamps the classification card, which is then to be presented to the different instructors under whom work is to be taken for their signatures, and in order that they may also enroll the student in their classes. This card should then be returned to the registrar.

When a student is enrolled in a subject he is expected to attend all the recitations and other appointments in that subject unless he is excused by the classifying officer and has the subject removed from his card.

No student will be allowed to classify for more than twenty hours' work unless an average standing of 85 has been maintained in the work of the preceding semester, nor for less than fourteen hours' work without special permission from the Classification Committee.

27. GRADES. All grades are reported to the registrar in numbers on the scale of 100 as perfect. Grades are reported to students in classes as follows: Class "A," representing grades

between 90 and 100. Class "B" from 80 to 90. Class "C" from 70 to 80. Class "D" and "F" for all grades below 70. Students having a term grade of "A" may not be required to take final examination with their class. Grade "D" indicates that the student is conditioned, and may make up the work under a tutor, providing that this is done before the subject is again offered. "F" indicates that the subject in question must be repeated with a regular class before a passing grade is obtained.

In determining a final grade ordinarily twice the recitation grade is added to the final examination grade and one third of the sum is the final grade. Large latitude is given the teacher, especially in the more advanced work, in the determination of the students' final grades.

28. CONDITIONED STUDENTS. Any student who without good reason has failed to receive a passing grade in at least fourteen hours' work will be registered only conditionally for further work. And if any student at any time is not carrying the work in which he is classified at a passing grade, or fails to perform other duties which may be expected of him, he may be placed upon the conditional list and thus debarred from certain student privileges.

29. ATTENDANCE AND DISMISSAL. Students are expected to attend regularly all the exercises of the classes to which they are assigned. When a student finds it necessary to be absent he should get an excuse in advance, if possible. Otherwise he should present an excuse to the committee having this matter in charge at the time and place they may designate. Excuses will be granted only when the absence seems necessary, and such penalties will be imposed upon students for unexcused absences as the faculty may deem proper. Should a student find it necessary to be late to his class he should make a satisfactory explanation to his instructor at the close of the period.

All work that is omitted because of absences must be made up as the instructor may direct.

30. DEGREES. The courses of study leading to degrees given by the College are outlined on the following pages and are as follows:

The two year Pharmacy course leading to the degree of Pharmacy Graduate, (Ph. G.).

The four year course in Agriculture, in which the student may elect work along the line of Animal Husbandry, Dairy Husbandry, Agronomy, Horticulture, Veterinary Medicine, Chemistry or Botany. Upon the completion of one of these schemes, under the direction of the head of the department in which the group of electives is chosen the student will receive the degree of Bachelor of Science, (B. S.).

The courses in Mechanical, Electrical and Civil Engineering, each of four years, and leading to the degree of Bachelor of Science, (B. S.). In order to meet a constantly increasing demand for better equipped, and more thoroughly trained men along the several lines of engineering activities, an additional fifth year course of study is offered in the three engineering departments. Upon the completion of this additional year's work, the advanced degree, Mechanical Engineer, (M. E.), Electrical Engineer, (E. E.), or Civil Engineer, (C. E.), will be conferred. This work is nearly all prescribed and is a continuation of the work pursued in the undergraduate courses, and is intended more fully to equip the student with special training along the particular line of work which he desires to pursue after leaving college.

The advanced degree of Master of Science, (M.S.), will be conferred upon students who have completed the four-year undergraduate course in any of the above lines of study and an additional amount of work equal to ten five-hour subjects to be chosen along appropriate lines and in not more than two departments, in each of which credit for at least four collegiate five-hour subjects has already been obtained, the advanced work to be done as prescribed by the faculty. Six or more of the subjects, constituting the "major," must be chosen from one department. At least one year of this work must be done while in residence.

31. SPECIAL COURSES. The College also offers special courses in several important and practical lines of work. These are mentioned in connection with the departments principally concerned or in the description of the special short industrial courses, and are as follows:

Three year course in the School of Agriculture.

Two year course in pharmacy.

One year secretarial course in commerce department.

Five month course in steam engineering.

Three month creamery course.

Thirteen week course in domestic science.

Special work in vocal and instrumental music.

Special work in art.

Lectures on poultry husbandry, corn judging and stock judging, two weeks.

32. SCHEMES OF STUDY. The work leading to a Bachelor's degree may be done according to any one of the schemes mapped out on the following pages. Through these the work of the College is adapted to different classes of students. The entrance requirements to each of these is the work of the preparatory course.

The notation immediately after the name of a subject indicates its nature and the number of times it occurs a week, *a* referring to the class work, and *b* to the laboratory exercises. A department will not be required to give an elective unless at least five students are registered for the subject.

AGRICULTURE

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Elementary Chemistry, a & b 5	Chemistry	1
Stock Judging, a 4	Animal Husbandry	1
Plane Trigonometry, a 2	Mathematics	9
Military Tactics, 3		
Elective, a 4		
French, a 4	French	1
German, a 4	German	1

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	2
Principles of Animal Breeding, a 3	Animal Husbandry	4

Surveying, b 2	Civil Engineering	2
Military Tactics, 3		
Elective, a 4		
French, a 4	French	2
German, a 4	German	2

SOPHOMORE YEAR

First Semester—

General Botany, a 2, b 3	Botany	1
General Horticulture, b 1	Horticulture	1
Farm Crops, a & b 5	Agronomy	1
Quantitative Chemistry, a & b 5	Chemistry	3
Military Tactics, 3		
Elective, a 4		
French, a 4	French	3
German, a 4	German	3

Second Semester—

General Botany, a 2, b 3	Botany	2
General Horticulture, b 1	Horticulture	2
Farm Dairying, a 2, b 1	Dairy Husbandry	1
Elements of Military Science, a 1	Military Science	1
Military Tactics, 3		
Elective, a & b 10		
French, a 4, or	French	4
German, a 4	German	4

And six hours to be selected from one of the groups.

JUNIOR YEAR

First Semester—

General Zoology, a 2, b 3	Zoology	2
Entomology, a & b 2	Entomology	3
Soils, a & b 5	Agronomy	4
Psychology, a 3	Philosophy	3
Elective, a & b 5		

To be selected from one of the groups.

Second Semester—

General Zoology, a 2, b 3	Zoology	3
Entomology, a & b 4	Entomology	4
Soils, a & b 5	Agronomy	5
Electives, a & b 6		

To be selected from one of the groups.

SENIOR YEAR

First Semester—

Geology, a 5	Agronomy	9
Economics, a 3	History	15
Elective, a & b 10		

To be selected from one of the groups.

Second Semester—

Genetics, a 3	Horticulture	7
Ethics, a 3	Philosophy	4
Electives, a & b 12		

To be selected from one of the groups.

Elective Groups of Agriculture Course

Animal Husbandry Group

SOPHOMORE YEAR

Second Semester—

Horse Shoeing, a 2	Veterinary	1
Breeds of Live Stock, a 4	Animal Husbandry	2

JUNIOR YEAR

First Semester—

Advanced Stock Judging, a 2	Animal Husbandry	3
Animal Nutrition, a 3	Animal Husbandry	5

Second Semester—

Agricultural Chemistry, a 3	Chemistry	6
Forage Crops, a 3	Agronomy	3
Forestry, a 2	Horticulture	4

SENIOR YEAR

First Semester—

Stock Feeding and Management, a 2	Animal Husbandry	6
Veterinary Medacine, a 5	Veterinary	4
Bacteriology, a & b 5	Veterinary	6
Public Speaking, a 3	Philosophy	7
History of Education, a 3	Philosophy	5

Second Semester—

Stock Feeding and Management, a 3	Animal Husbandry	7
Veterinary Medicine, a 5	Veterinary	5
Farm Machinery, a & b 3	Agronomy	8
Principles of Education, a 3	Philosophy	6
Concrete Construction for Agricultural Purposes, a 3	Agronomy	13
Public Speaking, a 2	Philosophy	8

Dairy Husbandry Group

SOPHOMORE YEAR

Second Semester—

Inspection and Testing of Dairy Products, a & b 4	Dairy Husbandry	2

Farm Machinery, a & b 3, or .... Agronomy 8
Landscape Gardening, b 2, or .... Horticulture 6
English Literature, a 3, or .... English 12 or 14 or 16
Farm Crops, a 3 .... Agronomy 3

JUNIOR YEAR

First Semester—

Factory Operation (Creamery), a & b 5 .. Dairy Husbandry 4

Second Semester—

Factory Operation (Cheese), a & b 5 ...... Dairy Husbandry 5
Forestry, a 2, or .... Horticulture 4
Sociology, a 3, or .... History 16
English Literature, a 3 .... English 12 or 14 or 16

SENIOR YEAR

First Semester—

Dairy Management, a & b 3 .... Dairy Husbandry 6
Dairy Bacteriology, a & b 3 .... Dairy Husbandry 3
Veterinary Medicine, a 5 or .... Veterinary 4
Agricultural and Sanitary Analysis, a & b 5 or .... Chemistry 5
Cytology and Botanical Methods, a 1, b 4 or ...... Botany 8
History of Education, a 3, or .... Philosophy 5
Mycology and Plant Pathology, b 2, or .... Botany 5
English Literature, a3, or .... English 11 or 13 or 15
Animal Nutrition, a 3 .... Animal Husbandry 5

Second Semester—

Dairy Technology, a 2 .... Dairy Husbandry 7
Dairy Research, a 5 .... Dairy Husbandry 8
Chemistry of Foods and Nutrition, a & b 5, or .... Chemistry 4
Agricultural Chemistry, a 3, or .... Chemistry 6
Veterinary Medicine, a 5, or .... Veterinary 5
Cytology and Botanical Methods, a 1, b 4, or .... Botany 9
Principals of Education, a 3, or .... Philosophy 6
English Literature, a 3 .... English 12 or 14 or 16

Veterinary Group

SOPHOMORE YEAR

Second Semester—

Chemistry of Foods and Nutrition, a & b 5 ...... Chemistry 4
Horse Shoeing, a 2 .... Veterinary 1

JUNIOR YEAR

First Semester—

*General Physics, a 3, b 2 .... Physics 3
Veterinary Anatomy, a & b 5 .... Veterinary 2
Advanced Stock Judging, a 2 .... Animal Husbandry 3
Animal Nutrition, a 3 .... Animal Husbandry 5

Second Semester—

*General Physics, a 3, b 2	Physics	4
Veterinary Anatomy, a & b 5	Veterinary	3
Inspection and Testing of Dairy Products, a & b 4	Dairy Husbandry	2
Veterinary Materia Medica, a 3	Pharmacy	10

*To be taken in place of Soils, Agronomy 5 & 6, by students of this group.

SENIOR YEAR

First Semester—

Veterinary Medicine, a 5	Veterinary	4
Histology, a & b 5	Zoology	8
Bacteriology, a & b 5	Veterinary	6
Comparative Anatomy of Vertebrates, a & b 5	Zoology	6
History of Education, a 3	Philosophy	5

Second Semester—

Veterinary Medicine, a 5	Veterinary	5
Histology, a & b 5	Zoology	9
Comparative Anatomy of Vertebrates, a & b 5	Zoology	7
Principles of Education, a 3	Philosophy	6

Agronomy Group

SOPHOMORE YEAR

Second Semester—

Farm Crops, a & b 5	Agronomy	2
Farm Crops, a 3	Agronomy	3

JUNIOR YEAR

First Semester—

Bacteriology, a & b 5	Veterinary	6

Second Semester—

Farm Machinery, a & b 3	Agronomy	8
Taxonomy, a 2, b 3	Botany	7

SENIOR YEAR

First Semester—

Plant Physiology, a 1, b 2	Botany	4
Mycology and Plant Pathology, b 2	Botany	5
Soils, a & b 5	Agronomy	6
Advanced Farm Crops, a & b 5	Agronomy	12
Economic Entomology, a & b 2	Entomology	5
History of Education, a 3	Philosophy	5
Investigation and Thesis, a & b 5 to 10	Agronomy	14

Second Semester—

Soils, a& b 5	Agronomy	7
Farm Management, a & b 5	Agronomy	11
Economic Entomology, a & b 2	Entomology	6

Concrete Construction for Agricultural Purposes, a & b 3	Agronomy	6
Agricultural Chemistry, a 3	Chemistry	6
Principles of Education, a 3	Philosophy	6
Investigation and Thesis, a & b 5 to 10	Agronomy	15

Horticulture Group

SOPHOMORE YEAR

Second Semester—

Floriculture and Market Gardening, a 1, b 1	Horticulture	3
Forestry, a 2	Horticulture	4

JUNIOR YEAR

First Semester—

Plant Physiology, a 1, b 2	Botany	4
Mycology and Plant Pathology, b 2	Botany	5

Second Semester—

Farm Machinery, a & b 3	Agronomy	8
Taxonomy, a 2, b 3	Botany	7
Mycology and Plant Pathology, b 2	Botany	6

SENIOR YEAR

First Semester—

Economic Entomology, a & b 2	Entomology	5
Systematic Pomology, b 1	Horticulture	5
Cytology and Botanical Methods, a 1, b 4	Botany	8
History of Education, a 3	Philosophy	5

Second Semester—

Economic Entomology, a 1, b 2	Entomology	6
Sociology, a 3	History	16
Landscape Gardening, b 2	Horticulture	6
Architectural Drawing, b 3	Mechanical Engineering	6
Principles of Education, a 3	Philosophy	6

Plant Pathology and Agricultural Botany Group

SOPHOMORE YEAR

Second Semester—

Economic Botany, a & b 3	Botany	3
Farm Machinery, a 3	Agronomy	8

JUNIOR YEAR

First Semester—

Plant Physiology, a 1, b 2	Botany	4
Mycology and Plant Pathology, b 2	Botany	5

Second Semester—

Taxonomy, a2, b 3	Botany	7
Mycology and Plant Pathology, b 2	Botany	6

SENIOR YEAR

First Semester—

Cytology and Botanical Methods, a 1, b 4	Botany	8
Economic Entomology, a & b 2	Entomology	5
Investigation and Thesis, a & b 3	Botany	11
History of Education, a 3	Philosophy	5

Second Semester—

Cytology and Botanical Methods, a 1, b 4	Botany	9
Economic Entomology, a & b 2	Entomology	6
Investigation and Thesis, a & b 5	Botany	12
Principles of Education, a 3	Philosophy	6

Chemistry Group

SOPHOMORE YEAR

Second Semester—

Chemistry of Food and Nutrition, a & b 5	Chemistry	4
Farm Machinery, a & b 3	Agronomy	8

JUNIOR YEAR

First Semester—

Histology, a & b 5	Zoology	8

Second Semester—

Histology, a & b 5	Zoology	9
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9

SENIOR YEAR

Second Semester—

Bacteriology, a & b 5	Veterinary	6
Agriculture and Sanitary Analysis, a & b 3	Chemistry	5
Industrial Chemistry, a 3	Chemistry	7
History of Education, a 3	Philosophy	5

Second Semester—

Agricultural Chemistry, a 3	Chemistry	6
Advanced Chemistry of Foods, a & b 5	Chemistry	8
Principles of Education, a 3	Philosophy	6

HOME ECONOMICS

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	1
Principles of Cookery, a 2, b 3	Home Economics	3
Elective, a 4		

French, a 4	French	1
German, a 4	German	1

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	2
Principles of Sewing, b 3	Home Economics	11
Theory of Design, a 2	Art	3
Electives, a 4		
French, a 4	French	2
German, a 4	German	2

SOPHOMORE YEAR

First Semester—

English Literature from Milton to Goldsmith, a 3	English	11
Quantitative Chemistry, a & b 5	Chemistry	3
General Botany, a 2, b 3	Botany	1
Dressmaking, b 2	Home Economics	12
Elective, a 4		
French, a 4	French	3
German, a 4	German	3

Second Semester—

English Prose Literature from Johnson to Morley, a 3	English	12
Chemistry of Foods and Nutrition, a & b 5	Chemistry	4
General Botany, a 2, b 3	Botany	2
Textiles, a 2	Home Economics	10
Elective, a 4		
French, a 4	French	4
German, a 4	German	4

JUNIOR YEAR

First Semester—

English Literature, a 3	English	13 or 15
History, Medieval, a 3	History	7
General Zoology & Physiology, a 2, b 3	Zoology	2
Bacteriology, a & b 5	Veterinary	6
Psychology, a 3	Philosophy	3

Second Semester—

English Literature, a 3	English	14 or 16
History, Modern, a 3	History	8
General Zoology & Physiology, a 2, b 3	Zoology	3
Tailoring and Millinery, b 2	Home Economics	13
Serving and Dietetics, a 1, b 2	Home Economics	4
Ethics, a 3	Philosophy	4

SENIOR YEAR

First Semester—

Economics, a 3	History	15

Art History, a 2	Art	6
Handicraft, b 2	Art	4
Sanitation, a 3	Home Economics	6
Home Nursing, a 3	Home Economics	7
The House, a 2	Home Economics	9
The Retail Market, a 2	Home Economics	11
Elective, a 3		
History of Education, a 3	Philosophy	5
Nature Study, a 3	Entomology	12

Second Semester—

Sociology, a 3	History	16
Astronomy, a 4	Mathematics	15
Art History, a 2	Art	7
Handicraft, b 2	Art	5
Special Problems in Cookery, a 1, b 2	Home Economics	5
Elective, a 5		
Principles of Education, a 3	Philosophy	6
Ornithology (Bird Life), a & b 2	Entomology	12
Household Insects, a 2	Entomology	9

MECHANICAL ENGINEERING

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Solid Geometry, a 3	Mathematics	7
Plane Trigonometry, a 2	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Engineering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Advanced Algebra, a 3	Mathematics	8
Plane and Spherical Trigonometry, a 2	Mathematics	10
Elementary Chemistry, a & b 5	Chemistry	2
Machine Shop, b 3	Mechanical Engineering	3
Surveying, b 2	Civil Engineering	2
Military Tactics, 3		

SOPHOMORE YEAR

First Semester—

Analytic Geometry	Mathematics	11
General Physics, a 3, b 2	Physics	3

French, a 4	French	1
Machine Shop, b 5	Mechanical Engineering	4
Military Tactics, 3		

Second Semester—

Calculus, a 5	Mathematics	12
General Physics, a 3, b 2	Physics	4
French, a 4	French	2
Descriptive Geometry, a 1, b 2	Mechanical Engineering	7
Machine Design, b 2	Mechanical Engineering	8
Elements of Military Science, a 1	Military	1
Military Tactics, 3		

JUNIOR YEAR

First Semester—

Machine Design, b 4	Mechanical Engineering	9
Elements of Mechanism, a 3	Mechanical Engineering	16
Electricity and Magnetism, a 3, b 1	Electrical Engineering	1
Hydraulics, a 3	Civil Engineering	5
Analytic Mechanics and Calculus, a 5	Mathematics	13

Second Semester—

Analytic Mechanics, a 3	Mathematics	14
Steam Engineering and Thermodynamics, a 5	Mechanical Engineering	12
Mechanics of Materials, a 5	Mechanical Engineering	16
Electrical Measurement, b 2	Electrical Engineering	2
Dynamo Electrical Machinery, a 3, b 2	Electrical Engineering	3

SENIOR YEAR

First Semester—

Gas and Oil Engines, a 2	Mechanical Engineering	11
Experimental Engineering, b 3	Mechanical Engineering	17
Steam Boilers, a 2	Mechanical Engineering	13
Engineering Design, b 5	Mechanical Engineering	19
Stresses in Framed Structures, a 3	Mechanical Engineering	15
Economics, a 3	History	15

Second Semester—

Experimental Engineering, b 4	Mechanical Engineering	18
Structural Design, b 5	Mechanical Engineering	20
Contracts and Specifications, a 2	Civil Engineering	12
General Astronomy, a 4	Mathematics	15
Masonry and Foundations, a 2	Civil Engineering	9

Fifth Year Subjects in Mechanical Engineering

First Semester—

Alternating Currents, a 3, b 2	Electrical Engineering	4

Structural Design, b 3	Mechanical Engineering	21
Statics, a 2	Mechanical Engineering	24
Thesis, a 2	Mechanical Engineering	26
Elective, 5		

Second Semester—

Kinematics, b 2	Mechanical Engineering	14
Structural Engineering, b 2	Mechanical Engineering	22
Heating and Ventilation, a 2	Mechanical Engineering	25
Thesis, a & b 3	Mechanical Engineering	27
Railroad Engineering, a 1, b 2	Civil Engineering	13
Elective, 5		

Note—All Electives must be taken in the department.

ELECTRICAL ENGINEERING

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Solid Geometry, a 3	Mathematics	7
Plane Trigonometry, a 2	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Engineering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Advanced Algebra, a 3	Mathematics	8
Plane and Spherical Trignometry, a 2	Mathematics	10
Elementary Chemistry, a & b 5	Chemistry	2
Machine Shop, b 3	Mechanical Engineering	3
Surveying, b 2	Civil Engineering	2
Military Tactics, 3		

SOPHOMORE YEAR

First Semester—

Analytic Geometry	Mathematics	11
General Physics, a 3, b 2	Physics	3
French, a 4	French	1
Machine Shop, b 5	Mechanical Engineering	4
Military Tactics, 3		

Second Semester—

Calculus, a 5	Mathematics	12
General Physics, a 3, b 2	Physics	4

French, a 4	French	2
Descriptive Geometry, a 1, b 2	Mechanical Engineering	7
Machine Design, b 2	Mechanical Engineering	8
Elements of Military Science, a 1	Military	1
Military Tactics, 3		

JUNIOR YEAR

First Semester—

Electricity and Magnetism, a 3, b 2	Electrical Engineering	1
Machine Design, b 4	Mechanical Engineering	9
Elements of Mechanism, a 3	Mechanical Engineering	10
Hydraulics, a 3	Civil Engineering	5
Analytic Mechanics and Calculus, a 5	Mathematics	13

Second Semester—

Analytic Mechanics, a 3	Mathematics	14
Electrical Measurements, b 1	Elecrical Engineering	2
Dynamo Electric Machinery, a 3, b 2	Electrical Engineering	3
Steam Engines and Thermodynamics, a 5	Mechanical Engineering	12
Mechanics of Materials, a 5	Mechanical Engineering	16

SENIOR YEAR

First Semester—

Alternating Currents, a 3, b 2	Electrical Engineering	4
Dynamo Design, b 3	Electrical Engineering	5
Gas and Oil Engines, a 2	Mechanical Engineering	11
Steam Boilers, a 2	Mechanical Engineering	13
Experimental Engineering, b 3	Mechanical Engineering	17
Economics, a 3	History	15

Second Semester—

Electric Light and Power Distribution, a 3, b 2	Electrical Engineering	6
Experimental Engineering, b 4	Mechanical Engineering	18
Contracts and Specifications, a 2	Civil Engineering	12
General Astronomy, a 4	Mathematics	15
Masonry and Foundations, a 2	Civil Engineering	9

Fifth Year Subjects in Electrical Engineering

First Semester—

Polyphase Currents, a 3, b 2	Electrical Engineering	7
Electrical Design, b 3	Electrical Engineering	8
Thesis, a or b 2	Electrical Engineering	11
Stresses in Framed Structures, a 3	Mechanical Engineering	15
Elective, 5		

Second Semester—

Designs of Power Stations, a 2, b 3	Electrical Engineering	9
Long Distance Transmission, a 2	Electrical Engineering	10
Thesis, a or b 3	Electrical Engineering	12
Railroad Engineering, a 1, b 2	Civil Engineering	13
Elective, 5		

Note—Electives must be taken in the department.

Special electives in Electrical Engineering subjects will be offered in the senior and fifth years.

CIVIL ENGINEERING

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Solid Geometry, a 3	Mathematics	7
Plane Trigonometry, a 2	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Engineering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Advanced Algebra, a 3	Mathematics	8
Plane and Spherical Trigonometry, a 2	Mathematics	10
Elementary Chemistry, a & b 5	Chemistry	2
Surveying, a & b 5	Civil Engineering	1
Military Tactics, 3		

SOPHOMORE YEAR

First Semester—

Analytic Geometry	Mathematics	11
General Physics, a 3, b 2	Physics	3
French, a 4	French	1
Surveying, a & b 5	Civil Engineering	3
Military Tactics, 3		

Second Semester—

Descriptive Geometry, a 1, b 2	Mechanical Engineering	7
Calculus, a 5	Mathematics	12
General Physics, a 3, b 2	Physics	4
French, a 4	French	2
Topographical Surveying, a & b 2	Civil Engineering	4
Elements of Military Science, a 1	Military	1
Military Tactics, 3		

JUNIOR YEAR

First Semester—

Analytic Mechanics and Calculus a 5	Mathematics	13
Electricity and Magnetism, a 3, b 2	Electrical Engineering	1
Machine Design, b 4	Mechanical Engineering	9
Elements of Mechanism, a 3	Mechanical Engineering	10
Hydraulics, a 3	Civil Engineering	5

Second Semester—

Analytic Mechanics, a 3	Mathematics	14
Steam Engines and Thermodynamics, a 5	Mechanical Engineering	12
Mechanics of Materials, a 5	Mechanical Engineering	16
Geodesy, a 3	Civil Engineering	6
Water Supply, a 2	Civil Engineering	7
Irrigation, a 2	Civil Engineering	8

SENIOR YEAR

First Semester—

Economics, a 3	History	15
Geology, a 5	Agronomy	9
Steam Boilers, a 2	Mechanical Engineering	13
Stresses in Framed Structures, a 3	Mechanical Engineering	15
Experimental Engineering, b 3	Mechanical Engineering	17
Sewerage, a 2	Civil Engineering	10
Roads and Pavement, a 2	Civil Engineering	11

Second Semester—

General Astronomy, a 4	Mathematics	15
Experimental Engineering, b 4	Mechanical Engineering	18
Contracts and Specifications, a 2	Civil Engineering	12
Railroad Engineering, a 3	Civil Engineering	13
Dam and Reservoir Designs, b 2	Civil Engineering	14
Masonry and Foundations, a 2	Civil Engineering	9

Fifth Year Subjects in Civil Engineering

First Semester—

Gas and Oil Engines, a 2	Mechanical Engineering	11
Structural Design, a 3, b 2	Civil Engineering	15
Hydraulic Motors, a 3	Civil Engineering	17
Reinforced Concrete, a 3	Civil Engineering	18
Thesis, a 2	Civil Engineering	19
Elective, 3		

Second Semester—

Dynamo Electric Machinery, a 3, b 2	Electrical Engineering	3

Kinematics, b 2	Mechanical Engineering	14
Structural Design, b 3	Civil Engineering	16
Thesis, a & b 3	Civil Engineering	20
Elective, 5		

Note—Electives must be chosen in the department.

GENERAL SCIENCE

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Elementary Chemistry, a & b 5	Chemistry	1
Military Tactics, 3		
Elective, 9		
French, a 4, or	French	1
German, a 4	German	1
Principles of Cookery, a 2, b 3	Home Economics	3
Solid Geometry, a 3, and	Mathematics	7
Plane Trigonometry, a 2	Mathematics	9

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	2
Military Tactics, 3		
Elective, 9		
French, a 4, or	French	2
German, a 4	German	2
Textiles, a 2, and	Home Economics	10
Principles of Sewing, b 3	Home Economics	11
Or two of the three following subjects:		
Surveying, b 2	Civil Engineering	2
Advanced Algebra, a 3	Mathematics	8
Plane and Spherical Trigonometry, a 2	Mathematics	10

SOPHOMORE YEAR

First Semester—

English Literature from Milton to Goldsmith, a 3	English	11
Public Speaking, a 3	Philosophy	7
Military Tactics, 3		
Elective, a & b 14		
French, a 4, or	French	3

German, a 4	German	3
And two of the following:		
General Botany, a 2, b 3	Botany	1
General Zoology, a 2, b 3	Zoology	3
Quantitative Chemistry, a & b 5	Chemistry	3
General Physics, a 3, b 2	Physics	3
Analytic Geometry	Mathematics	11

Second Semester—

English Prose Literature from Johnson to Morley, a 3	English	12
Public Speaking, a 2	Philosophy	8
Elements of Military Science, a 1	Military	1
Military Tactics, 3		
Elective, a & b 14		
French, a 4, or	French	4
German, a 4	German	4
And two of the following:		
General Botany, a 2, b 3	Botany	2
General Zoology, a 2, b 3	Zoology	4
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
General Physics, a 3, b 2	Physics	4
Calculus, a 5	Mathematics	12

JUNIOR YEAR

First Semester—

English Literature, a 3	English	13 or 15
History, Medieval, a 3	History	7
Psychology, a 3	Philosophy	3
Elective, a & b 10		

Second Semester—

English Literature, a 3	English	14 or 16
History, Modern, a 3	History	8
Ethics, a 3	Philosophy	4
Electives, a & b 10		

SENIOR YEAR

First Semester—

Economics, a 3	History	15
Geology, a 5	Agronomy	9
Elective, a & b 10		

Second Semester—

Sociology, a 3	History	16
General Astronomy, a 4	Mathematics	15
Elective, a & b 10		

Electives of Junior and Senior Years in General Science

First Semester—

General Botany, a 2, b 3	Botany	1
Plant Physiology, a 1, b 2	Botany	4
Mycology and Plant Pathology, b 2	Botany	5
Cytology and Botanical Methods, a 1, b 4	Botany	8
Quantitative Chemistry, a & b 5	Chemistry	3
Agricultural and Sanitary Analysis, a & b 5	Chemistry	5
Industrial Chemistry, a 3	Chemistry	7
General Physics, a 3, b 2	Physics	3
Advanced Physics, a 4, b 1	Physics	5
Heat, a 3, b 1	Physics	7
Entomology, a & b 2	Entomology	3
Economic Entomology, a & b 2	Entomology	5
Systematic Entomology, b 2	Entomology	7
Insects and Disease, a 2	Entomology	10
Nature Study, a 3	Entomology	12
Materia Medica, a 5	Pharmacy	2
General Zoology, a 2, b 3	Zoology	3
Comparative Anatomy of Vertebrates, a & b 5	Zoology	7
Histology, a & b 5	Zoology	9
Embryology, a & b 5	Zoology	11
Bacteriology, a & b 5	Veterinary	6
Analytic Geometry	Mathematics	11
Analytic Mechanics, a 5	Mathematics	13
French, a 3	French	5
German, a 3	German	5
English Poetry from 1798 to 1832, a 3	English	13
English Literature from Beowulf to Milton, a 3	English	15
The English Novel, a 3	English	17
Biblical History and Literature, a 2	English	19
Argumentation, a 3	English	21
American History (1783-1829), a 3	History	9
Nineteenth Century History, a 2	History	11
American Government, a 3	History	13
History of Education, a 3	Philosophy	5
Theory and Practice of Design, a & b 2	Art	4
Art History, a 2	Art	6
Theory of Interpretation and Musical Forms, a 2	Music	6
History of Music, a 3	Music	7
Military Law, a 1	Military	2
Field Service Regulations & Military Field Engineering, a 1	Military	4

Second Semester—

General Botany, a 2, b 3	Botany	2
Economic Botany, a & b 3	Botany	3
Taxonomy, a 2, b 3	Botany	7
Cytology and Botanical Methods, a 1, b 4	Botany	9
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
Chemistry of Food and Nutrition, a & b 5	Chemistry	4
Agricultural Chemistry, a 3	Chemistry	6
General Physics, a 3, b 2	Physics	4
Advanced Physics, a 4, b 1	Physics	6
Light, a 3, b 1	Physics	8
Entomology, a & b 4	Entomology	4
Economic Entomology, a & b 2	Entomology	6
Systematic Entomology, b 2	Entomology	8
Bird Life, a & b 2	Entomology	11
Materia Medica, a 5	Pharmacy	3
General Zoology, a 2, b 3	Zoology	3
Comparative Anatomy of Vertebrates, a & b 5	Zoology	8
Histology, a & b 5	Zoology	10
Embryology, a & b 5	Zoology	12
Genetics, a 3	Horticulture	7
Calculus, a 5	Mathematics	12
Analytic Mechanics, a 3	Mathematics	14
French, a 3	French	6
German, a 3	German	6
American History, (1829-1865), a 3	History	10
Nineteenth Century History, a 2	History	12
Political Parties in the United States, a 3	History	14
Principles of Education, a 3	Philosophy	6
Theory and Practice of Design, a & b 2	Art	5
Art History, a 2	Art	7
English Poetry from 1832, a 3	English	14
Shakespeare and the Drama, a 3	English	16
Biblical History and Literature, a 2	English	20
Argumentation, a 3	English	22
Theory of Interpretation and Musical Forms, a 2	Music	9
History of Music, a 3	Music	10
International Law, a 1	Military	3
Applied Tactics, a 1	Military	5
Business Affairs, a 2	Commerce	11

PHARMACY

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Elementary Chemistry, a & b 5	Chemistry	1
Solid Geometry, a 3	Mathematics	7
Plane Trignometry, a 2	Mathematics	9
Military Tactics, 3		
Elective, a 4		
French, a 4	French	1
German, a 4	German	1

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	2
Advanced Algebra, a 3	Mathematics	8
Elementary Law, a 3	Commerce	8
Military Tactics, 3		
Elective, a 4		
French, a 4	French	2
German, a 4	German	2

SOPHOMORE YEAR

First Semester—

General Botany, a 2, b 3	Botany	1
General Physics, a 3, b 2	Physics	3
Quantitative Chemistry, a & b 5	Chemistry	3
Military Tactics, 3		
Elective, a 4		
French, a 4	French	3
German, a 4	German	3

Second Semester—

General Botany, a 2, b 3	Botany	2
General Physics, a 3, b 2	Physics	4
Chemistry of Foods and Nutrition, a & b 5	Chemistry	4
Elements of Military Science, a 1	Military Science	1
Military Tactics, 3		
Elective, a 4		
French, a 4	French	4
German, a 4	German	4

JUNIOR YEAR

First Semester—

English Literature from Milton to Goldsmith, a 3	English	11
Anatomical Methods, a 3, b 2	Zoology	5
Pharmacy Latin, a 5	Pharmacy	1
Industrial Chemistry, a 3	Chemistry	7
Medieval History, a 3	History	7

Second Semester—

Anatomical Methods and Physiology, a 3, b 2	Zoology	6
Chemical Toxicology, b 5	Pharmacy	11
Pharmacognosy, a & b 5	Botany	10
Modern History, a 3	History	8

SENIOR YEAR

First Semester—

Materia Medica, a 5	Pharmacy	2
Pharmacy, a 5	Pharmacy	4
Pharmacy Laboratory, b 3	Pharmacy	5
Pharmaceutical Problems, a 2	Pharmacy	6
Bacteriology, a & b 5	Veterinary	6

Second Semester—

Materia Medica, a 5	Pharmacy	3
Pharmacy, a 5	Pharmacy	7
Pharmacy Laboratory, b 5	Pharmacy	8
Volumetric Analysis & Drug Assaying, a & b 5	Pharmacy	9

TWO YEAR COURSE IN PHARMACY

FIRST YEAR

First Semester—

Elementary Chemistry, a & b 5	Chemistry	1
General Botany, a 2, b 3	Botany	1
Anatomical Methods, a 3, b 2	Zoology	5
Pharmacy Latin, a 5	Pharmacy	1

Second Semester—

Elementary Chemistry, a & b 5	Chemistry	2
General Botany, a 2, b 3	Botany	2
Anatomical Methods and Physiology, a 3, b 2	Zoology	6
Pharmacognosy, a & b 5	Botany	5

SECOND YEAR

First Semester—

Materia Medica, a 5	Pharmacy	2
Pharmacy, a 5	Pharmacy	4
Quantitative Chemistry, a & b 5	Chemistry	3
Pharmacy Laboratory, b 3	Pharmacy	5
Pharmaceutical Arithmetic, a 2	Pharmacy	6

Second Semester—

Materia Medica, a 5	Pharmacy	3
Pharmacy, a 5	Pharmacy	7
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
Pharmacy Laboratory, b 5	Pharmacy	8

DEPARTMENTS AND WORK

The Agricultural Experiment Station

JAMES W. WILSON, DIRECTOR

Under the provision of the Hatch Act of March 2, 1887, and the Adams Act ofMarch 20, 1906, the state received during the fiscal year 1910-1911 $30,000 from the treasury of the United States for the maintenance of an experiment station. By an act of the legislature this institution was made a part of the South Dakota Agricultural College. Its object is to investigate along agricultural lines, publish the results in bulletin form and distribute them to the residents of the state for their information and benefit. It consists of seven divisions, namely, agronomy, animal husbandry, dairy, horticulture, chemistry, botany and veterinary.

Each of these divisions is in charge of an expert who is also professor of the same subject in the college.

About sixty acres of the college farm are set aside for experiments in crop rotation and testing varieties of grains.

Another sixty acres are utilized for experiments along horticultural lines, where trees, shrubs and vines are grown in profusion. Adaptation of grains, grasses, forage plants, fruits, trees, shrubs and vegetables for the Northwest, is being carried on in co-operation with the United States Department of Agriculture and as a result many valuable varieties have been introduced which probably would not otherwise have reached us.

Each division is provided by the State with the proper facilities to conduct investigations, and at least four bulletins are published annually, which are free to residents of the state. Queries pertaining to the various agricultural interests are answered promptly. The regular bulletin mailing list of the station numbers over 19,000 names.

All communications to this department should be addressed to the Director.

Department of Animal Husbandry

PROFESSOR WILSON, MR. THOMPSON

The instruction given in this department is made as practical as possible. The college herds and flocks include representatives of eighteen of the leading breeds of domestic animals. Practical work is given daily in score card practice to enable the student to distinguish between the poor and the good and between the good and the fancy kinds of animals. Many requests are made upon this department for judges of live stock at our district and county fairs.

The following work is offered:

1. Stock Judging and Marketing Livestock. Four recitations a week, first semester; required in the freshman year of the Agriculture Course. Study and practice in judging market types of horses, cattle, sheep and swine. Text: Craig's Judging Live Stock.

2. Breeds of Live Stock. Four recitations a week, second semester; required in the sophomore year of the animal husbandry group, Agriculture Course. A study of the various breeds, their origin, development, characteristics and adaptability to different climates. Text: Plumb's Types and Breeds of Farm Animals.

3. Advanced Stock Judging. Two recitations a week, first semester; required in the junior year of the animal husbandry and veterinary groups of the Agriculture Course; prerequisite, Animal Husbandry 1 and 2. Particular attention is given to show-yard work.

4. Principles of Animal Breeding. Three recitations a week, second semester; required in the freshman year of the Agriculture Course; prerequisite, Animal Husbandry 2.

5. Animal Nutrition. Three recitations a week, first semester; required in the junior year of the veterinary and animal husbandry groups, elective in the senior year of the dairy husbandry group, Agriculture Course; prerequisite, Chemistry 2. A study of the laws and principles of animal nutrition. The physical and chemical characteristics of the various feeding stuffs and their relation to practical feeding operations. Text: Jordan's Feeding of Animals.

6. Stock Feeding and Management. Two recitations a week, first semester; required in the senior year in the animal husbandry group of the Agriculture Course; prerequisite, Animal Husbandry 5. A study of the feeding and management of the various classes of live stock and station investigation and results. Text: Henry's Feeds and Feeding, with references.

7. Stock Feeding and Management. Three recitations a week, second semester; required in the senior year of the animal husbandry group of the Agriculture Course. Continuation of Animal Husbandry 6.

Department of Dairy Husbandry

PROFESSOR LARSEN, MR. WHITE, MR. IRVINE, MR. BAILEY

This department offers two separate courses: (1) the Four-Year Agriculture Course, the last one and a half years of which are devoted chiefly to special dairy studies; (2) the Three-Month Dairy Course.

The first course has been outlined with a special view of fitting young men to become teachers and investigators of dairying in public schools, agricultural colleges and experiment stations, inspectors of creameries and dairy products in municipal, state and government service and superintendents of large creameries and dairy farms.

The second course is given with a view of training men to become successful operators of creameries, cheese factories, central plants and dairy farms.

The demand for good men properly trained along dairy lines is great. Compensation for dairy and creamery work is good. Worthy students can depend upon the co-operation of this department in securing suitable work.

The Dairy Husbandry Department operates on a commercial basis a well equipped creamery and cheese factory all the year around. It is a two-story brick building. The first floor is occupied with the various creamery machinery and cheesemaking equipments. On the second floor, the research laboratory, milk inspection laboratory, class rooms and offices are located.

The dairy herd, consisting of representatives of the principal dairy breeds, which is kept in a separate dairy barn, affords excellent facilities for studying the various phases of milk production.

Experiments relating to feeding, breeding and care of dairy stock, and the manufacture of dairy products are in progress at all times. Students may have advantage of keeping in touch with these experiments, note manner of outlining and executing investigational work, and profit from results. Advanced worthy dairy students may arrange to assist in some of this work.

The following work is offered:

1. Farm Dairying. Two lectures and one laboratory period a week, second semester; required in the sophomore year of the four year Agriculture Course, and with some modification during the first year of the School of Agriculture.

This subject comprises a study of the economic production, secretion and composition of milk; of the comparative economy in disposing of and utilizing milk for various purposes on the farm, of testing milk and its products for fat, acid and common adulterations; of the effects of germs and degree of purity on dairy products; of the separating and handling of milk and cream and the manufacture of butter and cheese on the farm.

2. Inspection and Testing of Dairy Products. Four lectures and laboratory periods a week, second semester; required in the sophomore year of the dairy group and in the junior year of the veterinary group, Agriculture Course.

Those taking this course should have had at least one term's work in chemistry. It embodies a thorough study of the Babcock test for fat, of the lactometer and its application, of the tests for determining the acidity of dairy products, of the various tests for moisture in butter, of the influence and detection of different preservatives and adulterations, and a study of the various pure dairy food standards.

3. Dairy Bacteriology. One lecture and two laboratory periods a week, first semester; required in the senior year of the dairy group, Agriculture Course.

In this course are taught bacteriological principles as related to dairying, contamination of milk, fermentations of milk, and their control, relation of disease bacteria to milk, preservation of milk for commercial purposes, bacteria as related to the manufacture of butter, and bacteria as related to the manufacture of cheese. General bacteriology is a prerequisite study.

4. Factory Operation (Creamery). Three lectures and two laboratory periods a week, first semester; required in the junior year of the dairy group, Agriculture Course; prerequisite, Dairy 2.

A thorough study of the receiving, sampling and separation of milk and cream, the preparation and use of starters, pasteurization and ripening of cream, principles of churning, washing, salting, working, packing and marketing butter. Attention will also be given to the organization, location, construction, drainage, cooling and ventilation of factories and creameries, the economic disposal of factory by-products and various methods of factory refrigeration.

5. Factory Operation (Cheese). Three lectures and two laboratory periods a week, second semester; required in the junior year of the dairy group, Agriculture Course.

This course comprises a study of milk as applied to cheese-making, the manufacture of hard and soft cheese, including the principles involved in the setting, cutting, cooking, dipping, milling, salting, pressing, curing and marketing of cheese.

6. Dairy Management. Two lectures and one laboratory period a week, first semester; required in the senior year of the dairy group, Agriculture Course.

The various methods of improving and upbuilding a dairy herd, and the advanced judging of dairy stock will be emphasized, methods of weighing, testing and recording feed consumed and milk produced by each cow will be outlined. The history and adaptability of various dairy breeds to different conditions and relation of dairy types to milk producing capacity will be studied. This course will also embody study of the extent to which dairy farming is practiced and under which conditions it is best applicable, of dairy farming as an adjunct to general farming and the arrangement and construction of dairy farm buildings, stalls, yards, etc.

7. Dairy Technology. Two lectures a week, second semester; required in the senior year of the dairy group of the Agriculture Course; prerequisite, Chemistry 2 and Dairy 3.

This course treats of the ways in which milk and its products are utilized outside of the scope ordinarily embraced under dairying. It comprises such subjects as value of milk as a food, the preparation of certified, modified, standardized, fermented and condensed milk, the manufacture of casein, milk ivory, milk sugar, renovated butter and oleomargarine.

8. Dairy Research. Second semester, senior year; elective. A study of various views held by different authorities on certain important dairy subjects, a digest of recent dairy work of the experiment stations, and of comparative dairying as practiced in leading countries. A reading knowledge of German is recommended.

9. Dairy Practice. Elective. The college has a commercial creamery and cheese factory in operation every day during the year except Sunday. Students who specialize in dairying and need practical experience should make it a point to take this course. Arrangements can be made to do this practical work at almost any time during the year. Vacation time is recommended.

10. Domestic Dairying. One lecture and one laboratory period a week; elective. This course includes lectures and laboratory work on such phases of dairying as will be of greatest interest and value to ladies and home life, such as properties of milk, the various uses of milk, and each of its component parts for the home as well as for commercial purposes, and the relation of germs to quality of dairy products and to consumers of dairy products. The detection of adulteration of milk and dairy products, the use of the Babcock test for fat, effects of different ferments on milk and dairy products, and the making of cheese and butter on the farm will be demonstrated in the College Creamery laboratory.

Department of Veterinary Medicine

PROFESSOR MOORE

This department occupies a separate two-story building with a hospital in connection. The operating room is equipped with all necessary supplies and instruments for ordinary surgical operations. Free clinics are held each Saturday forenoon at which students assist and perform operations under the direction of the instructor. The instruction offered is aimed to meet the requirements of the agricultural student as well as the special student in veterinary medicine. Increased requirements being demanded of matriculants by the veterinary colleges, the increasing demand for veterinarians who have had a general education in addition to their professional training emphasizes the desirability, and in many cases the necessity, of obtaining a baccalaureate degree before entering a veterinary college. The student who therefore anticipates entering the veterinary profession is strongly urged to complete one of the four year courses before undertaking his professional training. For a suggested arrangement of studies see the veterinary group of the Agricultural Course.

The following work is offered:

1. Horseshoeing and Lameness. Two recitations a week, second semester; required in the sophomore year of the animal husbandry and veterinary groups, Agriculture Course. The anatomy of the foot, its care, preparation, and shoeing; diseases of the organs of locomotion.

2-3. Veterinary Anatomy. Five recitation and laboratory periods a week, first and second semesters, required in the junior year of the veterinary group, Agriculture Course. Conducted by the laboratory method with frequent quizzes. Osteology and arthrology.

4. Veterinary Medicine. Five recitations and laboratory periods a week, first semester; required in the senior year of the animal husbandry and the veterinary groups, elective in the senior year of the dairy husbandry group, Agriculture Course. The work will consist of lectures and clinics.

5. Veterinary Medicine. Five recitation and laboratory periods a week, second semester; required and elective in the same courses as 4.

6. Bacteriology. Five recitation and laboratory periods a week, first semester; required in the junior year of the Home Economics Course and in the senior year of the Pharmacy Course and the veterinary, chemistry and animal husbandry groups, Agriculture Course; elective in the junior or senior year of the General Science Course and the senior year of the dairy husbandry group, Agriculture Course.

7. Veterinary Physiology. Five recitations a week, required of students of agriculture during the last half of the second semester instead of human physiology. Text: Paton's Essentials of Physiology.

For Veterinary Materia Medica, see Department of Pharmacy.

Agronomy Department

PROFESSOR WILLIS, ASSOCIATE PROFESSOR BOPP,
MR. GRIGGS, MR. LOOMIS, MR. BIGGAR, MR. WOODWORTH

The aim of the Agronomy Department is to give the student some knowledge of the origin and formation of the soil, physical properties of the soil, supply of food to the growing plant, soil moisture, soil temperature, tillage, nutrition, capillary and water holding capacity of various soils, the effect of mulching and tillage upon the conservation of moisture. Also the classifications, improvements, culture, harvesting, uses, history and geographical distribution of crops. Class work and laboratory practice in setting up and testing farm machinery, noting construction and elements necessary for successful work. The arrangement, design, construction, and cost of farm buildings; especially barns, granaries and silos; in fact, to have the student see and feel that agriculture is a science and an art, involving in its scope a knowledge of the natural sciences to the upbuilding of the health, wealth and general good of all people, by the maintenance of the permanency of the fertility of the soil. With this aim in view the department wishes to offer the following courses:

1. Farm Crops. Five lectures and laboratory periods a week, first semester; required in the sophomore year of the Agriculture Course. Judging of wheat, barley, oats, emmer, potatoes, corn, etc., classification, improvement, culture, harvesting, uses, history, and geographical distribution of crops. Grain grading, cleaning, shrinkage, and care of stored crops to prevent injury and loss.

2. Farm Crops. Five recitations and laboratory periods a week, second semester, elective in the sophomore year of the agronomy group, Agricultural Course; prerequisite, Agronomy 1.

Vitality and germination of seeds, preservation of seeds, methods of seeding; conditions of plant growth; peculiarities of the different agricultural plants in respect to structure, habits, and requirements for successful growth,—weeds and weed seeds, their identification and methods of destruction, fungus diseases, such as smut, of oats and wheat, and blight, rust and scab of wheat, oats, barley, scab and rot of potatoes, methods of prevention; insects injurious to farm crops and how to combat them. Class room, laboratory and field work.

3. Farm Crops. Three recitation periods a week second semester; elective in the sophomore year of the agronomy group, Agriculture Course; prerequisite, Agronomy 1. A study of the various plants grown for forage in this state, adaptability of each for different sections of the state, comparison of native with the cultivated species. Methods of seeding, harvesting, and treatment of soil while in sod.

4. Soils. Five lecture and laboratory periods a week, first semester; required in the junior year of the Agriculture Course, except of students electing the veterinary group; prerequisite, Physics 1 and 2, Chemistry 1 and 2. The origin and formation of soil, physical properties of the soil, supply of food to the growing plant, soil moisture, soil temperature, tillage, nutrition, irrigation; physical analysis of soils; organic matter, real and apparent, specific gravity; capillary power of different soils; methods of conserving soil water; effects of spring or fall plowing upon soil water; physical effects of different crop rotations.

5. Soils. Five lecture and laboratory periods a week, second semester; required in the junior year of the Agriculture Course except of students electing the veterinary group; prerequisite, Agronomy 1 and 4, Chemistry 3. The influence of fertility, natural

or supplied, upon the field or various crops; the effect of different crops upon the soil and upon succeeding crops; different rotations and the ultimate effect of different systems of farming upon the fertility and productive capacity of soils. Devising rotation fitted for the soils of South Dakota The above will be supplmented by a laboratory study of manures and fertilizers, their composition and their agricultural and commercial values; of soils cropped continuously with different crops and with a series of crops; of the fertility of the various types of soils from different sections of South Dakota.

6. Soils. Five recitation and laboratory periods a week, first semester; elective in the senior year of the agronomy group, Agriculture Course; prerequisite, Agronomy 4. For students wishing to make a further study of the physical properties of special soils, including a mechanical analysis of such soils by the means of the centrifugal method. A study in the field of the effects of disking, harrowing, and rolling, time and depth of cultivation with reference to soil moisture and temperature.

7. Soils. Five recitation and laboratory periods a week, second semester; elective in the senior year of the agronomy group, Agriculture Course; prerequisite, Agronomy 4 and 5. Continuation and advanced work in Soils 5. Primarily designed to enable students to study the fertility and productivity of those special soils in which they may be particularly interested. This work may include further laboratory work and supplementary literature bearing upon the subject. Pot culture may be carried on in connection with the other investigations. The students will familiarize themselves with the correct principles and methods and conclusions to be deduced from such investigations and from the study of similar work of experiment stations and experimenters.

8. Farm Machinery. Three recitation and laboratory periods a week, second semester; elective in the junior year of the agronomy group, Agriculture Course. Principles of draft, roads, farm motors, horse power, engines, windmills, farm machinery, friction pumps. Laboratory work with models and apparatus for measuring draft, examination and test of farm machinery and implements.

9. Geology. Five recitation periods a week, first semester; required in the senior year of the General Science, Civil Engineering and Agriculture Courses. The object of the course in Geology is to give the student a review of the physical conditions of the earth; the various dynamic agencies, and the results of their activities; the origin and structure of rocks; and finally the geological history of the globe and the appearance and development of the principal races of animals and plants. The geology of South Dakota is emphasized. The work is based on Scott's Geology. Collection of rocks and

minerals, physiographic and geological models and also lantern slides afford ample means for illustration.

10. Dairy Lectures. Three recitation periods a week, second semester; elective. The students will be taught the chief principles involved in plant growth, such as the functions of the soil, air, water, fertilizers and tilth, The importance and methods of seed selection, rotation of crops, methods of producing the chief crops to maturity as well as for forage, and a consideration of the principal farm machinery.

11. Farm Management. Five recitation periods a week, second semester; required in the senior year of the agronomy group, Agriculture Course. The selection, laying out and general management of farms, farm buildings, selection and rotation of crops, markets; general summing up and correlation of the work in agronomy.

12. Advanced Farm Crops. Five recitation and laboratory periods a week, first semester; elective in the senior year of the agronomy group, Agriculture Course; prerequisite, Agronomy 1 and 2. A study of succession of crops with special reference to systematic farming and economic distribution of labor, methods of culture, cost of production, consumption of products and by products.

13. Concrete Construction for Agricultural Purposes. Three recitation and laboratory periods a week, second semester; elective in the senior year of the agronomy group. Agriculture Course. Testing cements, sand, rock, and gravel. Mixing concrete and making sample walks, fense posts, etc.

14. Investigation and Thesis. Five to ten recitation periods a week throughout the year; elective in the senior year of the agronomy group, Agriculture Course. This course varies in the subject matter according to the topics on which thesis are written.

GRADUATE COURSES.

15. Thesis Work. Throughout the entire year.

16. Different systems of agriculture practices and the effect of these systems upon the soil.

17. A detailed study of investigations being carried on in South Dakota.

18. Mechanical Composition of Soils. Influence upon granulation and other factors of a physical nature which affect crop production.

19. Drainage water; surface and sub-drainage with special reference to soil fertility.

20. Adaptation of varieties to soil types.

21 Special work in the field, consisting of testing varieties of corn, oats, wheat, potatoes, and other farm crops; methods of planting corn, seeding grains, grasses, and other forage crops;

culture of corn, potatoes, etc.; practice in treating small grain for smut, potatoes for scab, and studying the effect upon the crops; combating injurious insects. Other practical experiments may be arranged with the instructor.

Department of Horticulture and Forestry

PROFESSOR HANSEN, MR. STOLTENBERG

In this department the work is given from two standpoints. In one, especially in the study of genetics, emphasis is placed upon the general philosophy of the subject as being essential to a general education. The claim is made that some of the principles of horticulture and forestry are essential to any well rounded education and to the best preparation for citizenship. The second standpoint is that of students intending to make a life work of horticulture or forestry, either as a business or a profession. Throughout the course full use is made of the student's attainments in the various sciences underlying these subjects. The variation of plants and the principles and methods of their development under the hand of man are considered, as well as their propagation and cultivation.

Field and laboratory exercises emphasize the lectures and recitations of the class room. The habit of independent investigation and close observation is encouraged by requiring written reports of outdoor excursions or demonstrations. Excellent facilities for practical illustration are afforded by the ninety acres of experiment station horticulture grounds and college campus. In this domain are included orchards, forestry plantations, nurseries, vegetable gardens, small fruit plantations, flower borders and a collection of ornamental plants. Special attention is paid to the breeding of hardy fruits adapted to prairie conditions and the work in this line is now second to none in extent. The department greenhouses consist of two sections, one for the general floriculture work and the other for fruit-breeding experiments. In addition, the horticultural buildings contain class rooms, laboratory, grafting and potting rooms and storage cellars.

Special stress is placed upon practical work in the grafting room.

The following work is offered:

1. General Horticulture. One laboratory period a week throughout the year; required in the sophomore year of the Agriculture Course. An introduction to the various divisions of horticultural work, especially the propagation of plants and the best western nursery methods of planting, pruning and cultivation. Special attention is given to the grafting and budding of fruit trees. Elementary exercises in the identification and description of fruits and the origination of new varieties. Students are required in their laboratory notes to give the reasons why as well as the methods.

2. Floriculture and Market Gardening. One recitation and laboratory period a week, second semester; required in the sophomore year of the horticulture group, Agriculture Course.

The commercial and amateur cultivation of flowers and vegetables under glass and in the open air; lectures; demonstrations, and text book work.

3. Forestry. Two lectures or recitations a week, second semester; required in the sophomore year of the horticulture group, Agriculture Course.

Principles of forestry; the influence of forests on climate; timber planting on the prairies; European forestry methods as modified by prairie conditions; shelter belts; the propagation, cultivation, characteristics and use of forest trees; lectures and demonstrations.

Texts: Pinchot's Primer of Forestry; Green's Forestry in Minnesota; Proceedings of the American Forest Congress.

4. Systematic Pomology. Two laboratory exercises a week, first semester; required in the senior year of the horticulture group, Agriculture Course.

Principles of fruit culture with special reference to prairie conditions; exercises in the identification and description of fruits. Texts: American Horticultural Manual, Bailey's Principles of Fruit Culture.

5. Landscape Gardening. One recitation and one laboratory period a week, second semester; required in the senior year of the horticulture group, Agriculture Course.

The philosophy of the Beautiful in its various modes of expression; gardening as one of the fine arts; historic developement of the ancient or geometric and the modern or natural styles; the best ornamental trees, shrubs, plants and hedges. Special attention is paid to the development of originality in the planning and laying out of country and city home grounds, parks and school grounds; lectures; text-book, and references.

6. Genetics. Three recitations a week, second semester; required in the senior year, Agriculture Course.

This subject is especially recommended to students of the sciences relating to plants and animals, and also to students of general history and sociology. The evolution of plants and animals under the hand of man and in the state of nature; the philosophy of artificial evolution or the modification and amelioration of plants and animals by environment, selection and hybridization; the relation of genetics to society; recent theories and work in plant-breeding.

Texts: Darwin's Animals and Plants under Domestication; De Vries' Species and Varieties, their Origin by Mutation; Bailey's Plant-Breeding and Survival of the Unlike; Reports of International Conferences on Genetics; Reports of the U. S. Department of Agriculture.

7. Plant Propagation. Practical exercises in tree, shrub and plant propagation for students in the short agricultural course.

8. Floriculture and Home Gardening. Instruction in home gardening for the students in the short winter course in domestic economy and agriculture; text-books; practical demonstrations and exercises.

9. Forestry and Landscape Gardening. Lectures and exercises in the leading essentials of tree culture and the planting of home grounds for students in the short winter courses in agriculture.

Department of Home Economics

MISS TOUGH, MISS SMILEY, MISS HYDE

The purpose of the department is to provide training along the lines of intelligent house-keeping and home-making and also to prepare women to teach the subject. The location for carrying on the work is most favorable being the entire third floor of the North Building where there is abundance of room, air and light. The rooms consist of a large kitchen, a dining-room, a sewing-room and a recitation room provided with the equipment necessary for carrying on the work. Through the general library, opportunity is given for the use of the newest and best literature relating to the subject.

The work offered is intended to impart knowledge, develop skill in execution, stimulate self-direction and broaden and strengthen the individual. A good foundation of pure science is laid for all applied science while handwork, including sewing, gives opportunity for artistic expression the principles of which are gained through the regular art training.

In addition to the regular four-year course, which includes subjects for general training, a two-year normal course, described below, is offered.

The general subjects of the department are as follows:

For description of Home Economics 1 and 2 see preparatory department.

3. Principles of Cookery. Two recitations and three laboratory periods a week, first semester; required in freshman year of Home Economics Course; elective in freshman year of General Science Course; freshman or higher classification necessary. The work covers the study of food in source, composition, nutritive value, preparation and serving with training in care of kitchen and utensils.

4. Serving and Dietetics. One recitation and two laboratory periods a week, second semester; required in junior year of Home Economics Course; elective in junior year of General Science Course in place of Physics 4; prerequisite, Botany 2, Chemistry 3, Zoology 3 and Home Economics 1. The work includes preparation of menus with special reference to balanced diet, cooking and serving of meals and calculation of dietaries.

5. Special Problems in Cookery. One recitation and two laboratory periods a week, second semester; required in senior year of Home Economics Course; prerequisite, Botany 2, Chemistry 3, Zoology 3 and Home Economics 2.

The course covers diet for children and invalids and advanced work in the preparation and serving of meals, special attention being given to cost.

6. Sanitation and Hygiene. Three recitation periods a week, first semester; required in senior year of Home Economics Course; elective, together with Home Economics 6, in junior year of General Science Course in place of Physics 3; prerequisite, Chemistry 2, Botany 2 and Zoology 2. The course includes consideration of municipal and rural problems in sanitation, the care and handling of food in the market and in the home, the lighting, heating, ventilation, plumbing and general care of the house.

7. Home Nursing. Three recitation periods a week, first semester; required in senior year of Home Economics Course. Senior classification or special advanced standing necessary. The work covers the general care of the sick, directions for emergencies and consideration of some common diseases. A course of lectures by a physician is a part of the work.

8. The House. Two recitation periods a week, first semester; required in senior year of Home Economics Course; elective, together with Home Economics 4, in place of Physics 3, in junior year of General Science Course. The work embraces construction, furnishing and general care, including management and cleaning of the house and its equipment.

9. The Market. Two recitation periods a week, first semester; required in senior year of Home Economics Course; senior classification or special advanced standing necessary. The course covers equipping of the house with attention to quality, suitability and cost of necessary articles, the purchase and care of food, the preparation of menus and marketing lists and a study of bookkeeping and accounts.

10. Textiles. Two recitations a week, second semester; required in sophomore year of Home Economics Course; elective in freshman year of General Science Course. The work covers the study of fabrics in preparation and manufacture, general characteristics and qualities and their adaptation to specific uses.

11. Principles of Sewing. Three laboratory periods a week, second semester; required in freshman year of Home Economics Course; elective in freshman year of General Science Course. The course covers the making of simple and useful articles in which are incorporated the stitches necessary for garment making; the making of a set of undergarments is also required.

12. Dressmaking Two laboratory periods a week, first semester; required in sophomore year of Home Economics Course; prerequisite, Home Economics 9. The work includes drafting, cutting, fitting and plain dress-making.

13. Tailoring and Millinery. Two laboratory periods a week, second semester; required in junior year of Home Economics Course; prerequisite, Home Economics 9 and 10. The course covers the making of a tailored cloth skirt and coat and the making and trimming of hats.

THE NORMAL COURSE

This course covers a period of two years and is for students intending to teach Home Economics. The requirements for entrance are that the candidate be not under eighteen years of age and that she shall have completed a regular four years High School course or its equivalent. The subjects included in the course are as indicated below. They are similar in character to those designed for the General Home Economics Course, with the difference that the work is more concentrated and gives especial emphasis to the presentation with a view to teaching..

TWO YEAR NORMAL COURSE

FIRT YEAR

First Semester—

Chemistry	a 2, b 3
Sewing	b 2
Cookery	a 2, b 3
Botany	a 2, b 3
French	a 4

Second Semester—

Physics (Heat)	a 1, b 2
Sanitation & Home Nursing	a 2
Chemistry	a 2, b 3
Sewing	b 2
Textiles,	a 2
French	a 4
Theory of Design	a 2
The Retail Market and the House	a 2

SECOND YEAR

First Semester—

Psychology	a 3
Bacteriology	a & b 5
General Zoology & Physiology	a 2, b 3
History of Education	a 3
Handicraft	b 2
Normal Methods	a 1
Sewing and Handwork	b 2

Second Semester—

Principles of Education	a 3
Organic Chemistry	b 4
Practice Teaching	b 1
Cookery	a 2, b 3
Handicraft	b 2
General Zoology & Physiology	a 2, b 3

Department of Mechanical Engineering

PROFESSOR SOLBERG, PROFESSOR COOK, MR. BONELL

The object of the work offered is to give the student a thorough training in the theoretical principles underlying the science of mechanics and machines and at the same time to enable them to become particularly familiar with some of the numerous applications of these principles which are of such inestimable value to the human race.

The instruction is both theoretical and practical. The usual methods of text-book study and lectures are employed, but the student is required to put into practice, as far as possible, the instruction he receives. Hence the work of the class-room is supplemented and practically exemplified by practice in shops. The student not only studies the theories of constructing and operating machinery, but in the drawing room he designs, and in the shop he constructs and operates such machines. It is believed that those who complete this course will be able to fill responsible positions in manufacturing establishments. It is important that French be elected as the language that is required in addition to English.

The department is located in the Engineering Building. The workshops are supplied with a large variety and quantity of tools. The workshop is furnished with twenty-five sets of carpenter tools and with eight wood turning and one pattern maker's lathe, a scroll saw, a combination circular saw and a twenty-inch planer. There is also a variety of special tools for wood working.

The machine shop is furnished with a large number of engine lathes of different sizes, a universal milling machine, shaper, planer, tool grinder, drill press, emery wheels and a great variety of hand tools. The machinery is driven by a 50 H. P. Atlas Engine.

The Experimental laboratory is equipped with a 100,000 pound Riehle vertical screw testing machine, a 2,000-pound cement testing machine, together with steam, gas and hot-air engines. The machines are furnished with a large variety of smaller instruments for making complete tests, such as indicators, planimeters, tachometers, extensometers, compressometers, deflectometers, etc., also all the necessary equipment for testing cements and concretes.

Work in architectural drawing and designing is offered. Additional work along this line will be given to students who desire it.

A large number of pictures, drawings, and illustrative material has been recently added to the equipment through the liberality of manufacturers and friends of the college.

The following work is offered:

For description of Mechanical Engineering 1 and 2, see the preparatory department.

3. Machine Shop. Three laboratory periods a week, second semester; required in the freshman year of the Mechanical and the Electrical Engineering Courses. Manipulation of the various machines in turning, planing, shaping, milling, gear cutting and tool making.

4. Machine Shop. Five laboratory periods a week, first semester; required in the sophomore year of the Mechanical and the Electrical Engineering Courses. Construction of some machine or appliance from designs made in drawing room.

5. Mechanical Drawing. Five laboratory periods a week, first semester; required in the freshman year of the three Engineering Courses. Instrumental drawing, geometrical problems and parts of machines. This work is offered during the entire year, and at hours convenient to teachers and students.

6. Architectural Drawing. Three times a week, first or second semester; required in senior year of the horticultural group, Agriculture Course. Rendered drawings of simple buildings, examples of various orders, giving facility in draughtsmanship, familiarizing students with principles.

6a. Architectural Design. Three times a week, first semester; elective. Principles of planning introduced in practical problems, exercises in composition and details.

6b. Perspective. Five times a week, first or second semester; elective.

7. Descriptive Geometry. One recitation and two laboratory periods a week, second semester; required in the sophomore year of the three Engineering Courses; prerequisite, plane geometry. Instruction in methods of representing by drawing all geometrical magnitudes and solution of problems relating to these magnitudes in space.

8. Machine Design. Two laboratory periods a week, second semester; required in the sophomore year of the Mechanical and the Electrical Engineering Courses. Solution of various problems involving the design of simple parts of the machine.

9. Machine design. Four laboratory periods a week, first semester; required in the junior year of the three Engineering Courses. Continuation of Mechanical Engineering 8.

10. Elements of Mechanism. Three recitations a week, first semester; required in the junior year of the three Engineering Courses. Elements of machinery, velocity ratios, graphic representation of speed and acceleration; motion transmitting parts, such as gears, belts, cams, screws, link work; automatic feeds, parallel and quick return motions; designing. Text: Wood and Stahl.

11. Gas Engines and Gas Producers. Two recitations a week, first semester; required in the senior year of the Mechanical and Electrical Engineering Courses and in the fifth year of the Civil Engineering Course; prerequisite, Thermodynamics. Study of the theory, design and operation of gas, gasoline and oil engines and of the various types of gas producers.

12. Steam Engines and Thermodynamics. Five recitations a week, second semester; required in the junior year of the three Engineering Courses; prerequisite, Calculus. Study of the modern steam engine, slide valve, and when in combination with independent cut-off valves, link motion and Zeuner diagrams, reciprocating parts and indicator practice; the principles of the theory of heat which are necessary to a study of the various kinds of heat engines; the application of laws of themodynamics to the steam engine and a study of steam engine economy by entropy temperature analysis and by other graphical methods. Text: Ripper's Steam Engine.

13. Steam Boilers. Two recitations a week, first semester; required in the senior year of the three Engineering Courses; prerequisite, Mechanical Engineering 16. Advantages and disadvantages of using the various forms of boilers, methods of construction, tubes and flues, plates, riveting, bracing, grate and heating surface, gages and feed appliances, setting, care and operation. Text: Peabody's Steam Boilers.

14. Kinematics. Two laboratory periods a week, second semester; required for the fifth year degree in the Mechanical and the Civil Engineering Courses. Geometry of machinery, problems in the design of motion transmitting appliances.

15. Stresses in Framed Structures. Three recitations a week, first semester; required in the senior year of the Mechanical and the Civil Engineering Courses. Graphical determination of stresses under action of static, moving and wind forces. Text: Green, Vol. 1.

16. Mechanics of Materials. Five recitations a week, second semester; required in the junior year of the three Engineering Courses; prerequisite, Analytic Mechanics. Study of the strength and elastic properties of materials of construction, and the stresses in tension, compression, shearing, torsion and flexure; and mechanics of beams, columns and shafts. Text: Merriman's Mechanics of Materials.

17. Experimental Engineering. Three laboratory periods a week, first semester; required in the senior year of the three Engineering Courses; prerequisite, Mechanics of Materials. Here each student is required to carry out a definite series of tests of the various materials of construction, such as timber, cast iron, wrought iron, steel, cements and concretes.

18. Experimental Engineering. Four laboratory periods a week, second semester; required in the senior year of the three Engineering Courses. A complete series of tests of heating values of various coals; properties of different oils; calibration of gages, thermometers and planimeters; use of the steam engine indicator; throttling and separating calorimeters; dynamometers and Prony brakes in the testing of steam and gasoline engines. Also includes complete efficiency tests of engines and boilers in actual service. Prerequisite, Steam Engines and Thermodynamics.

19. Engineering Design. Five laboratory periods a week, first semester; required for the fifth year degree in Mechanical Engineering. Solution in the drawing room of some practical problems in design and making working drawings of same.

20. Engineering Design. Five laboratory periods a week, second semester; required in the senior year of the Mechanical Engineering Course. Continuation of Mechanical Engineering 19.

21. Structural Design. Three laboratory periods a week, first semester; required for the fifth year degree in Mechanical Engineering. Designing of roofs and buildings for power stations. For students in mechanical and electrical engineering.

22. Structural Engineering. Two laboratory periods a week, second semester; required for the fifth year degree in Mechanical Engineering. Continuations of Mechanical Engineering 21, with special reference to results obtained from Mechanical Engineering 18.

23. Statistics. Two recitations a week, first semester; required for the fifth year degree in Mechanical Engineering. Treated with special reference to the requirements of engineers. Resolution and composition of forces; center of gravity; principles of equilibrium with numerous applications. Graphic as well as algebraic methods are used. The various hurtful resistances to friction are considered, and numerous problems worked out in the drawing room.

24. Heating and Ventilation Two recitations a week, second semester; required for the fifth year degree in Mechanical Engineering. A study of the principles underlying the design of the various systems of heating and ventilation in common use, including such details as loss of heat from buildings, problems in proportioning ventilating ducts; and the arrangement of systems of piping for steam and hot water. A study is also made of the various mechanical

details entering into the installation of private plants and also plants operated from central stations.

25-26. Thesis Work. Two and three hours a week, first and second semesters; required for the fifth year degree in Mechanical Engineering. At the beginning of the fifth year's work a subject is assigned to each student, which he is to investigate, and on which he is required to prepare a thesis. This work may involve original design, or it may involve an experimental investigation of the action of certain machines or appliances or of the phenomena developed by the action of certain mechanical forces. In the pursuit of this work the student is thrown largely on his own responsibility. He is expected to familiarize himself with the literature on the subject and to study thoroughly the methods involved in the subject selected. The subject chosen should be submitted to the professor in charge not later than November first of the current year.

Department of Electrical Engineering

PROFESSOR BRACKETT, MR. HOY

The purpose of the work offered in electrical engineering is to impart to the student a practical knowledge of the principles of applied electricity. A well equipped laboratory is provided for the use of the student to supplement the lecture and recitation work of the class room. The laboratory equipment consists of generators and motors of both direct and alternating types, transformers and measuring instruments of different types and classes for the recording and measuring of current, pressure and speed. A sixty-cell storage battery is used in connection with the work in photometry. Various types of lamps, arc and incandescent, lamp banks, rheostats, and other apparatus are also available.

The student will be taught how to set up and adjust for the best conditions of operating all the usual types of dynamos, motors, transformers and standard auxiliary apparatus. Much additional laboratory work will be given to develop a clear understanding of the fundamental principles involved in the design of modern electrical machinery and in the most advanced engineering practice. The knowledge to be derived from much of this work is very important in the practical operation of electrical machinery and systems, but it cannot be obtained directly under the conditions of commercial service, where most of the apparatus must be used in one way only at all times.

The following courses are offered:

1. Electricity and Magnetism. Three recitations and two laboratory periods a week, first semester; required in the junior year of the Electrical and Mechanical Engineering Courses, and in the senior year of the Civil Engineering Course; prerequisite, Mathematics 7,8 and 9, Physics 4. This subject embraces a study of the theory and principles of static and current electricity, magnetism and the magnetic circuit, electro-magnetic induction and laws of the electric circuit, primary batteries, principles of telegraphy and the telephone.

2. Electrical Measurements. One laboratory period per week, second semester; required in the junior year of the Electrical Engineering Course; prerequisite, Electrical Engineering 1. Instruction and practice in the use, care and standardization of ammeters, voltmeters, wattmeters, resistance standards, Wheatstone bridges, potentiometers, sensitive galvanometers and standard cells. Estimation of the accuracy and reliability of different methods of testing, the correction and elimination or errors.

3. Dynamo Electric Machinery. Three recitations and two laboratory periods a week, second semester; required in the junior year of the Mechanical and Electrical Engineering Courses, and for the fifth year degree in Civil Engineering; prerequisite, Mathematics 11, Physics 4, and Electrical Engineering 1. Theory of the magnetic circuit, magnetic induction in iron, principles underlying the design, construction and operation of generators and motors. Resistance and insulation tests, experimental study of the operation and behavior of different types of motors and generators, efficiency tests.

4. Alternating Currents. Three recitations and two laboratory periods a week, first semester; required in the senior year of the Electrical Engineering Course, also for the fifth year degree in Mechanical Engineering; prerequisite, Mathematics 11, Physics 4, and Electrical Engineering 1 and 3. Study of the flow of alternating currents, inductance, capacity, principles of construction of alternating currents generators and motors, transformers; measurement of inductance and capacity, wave form of pressure and current, efficiency tests of machines and transformers.

5. Dynamo Design. Three laboratory periods a week, first semester; required in the senior year of the Electrical Engineering Course; prerequisite, Mathematics 11, Physics 4 and Electrical Engineering 1 and 3. In this the student works out the design and makes

drawings for a shunt or compound wound direct current generator or motor. The object of this course is to teach the theory of design of machines and to familiarize the student with the details and parts of the machine in relation to each other and to the machine as a whole.

6. Electric Light and Power Distribution. Three recitations and two laboratory periods a week, second semester; required in the senior year of the Electrical Engineering Course; prerequisite, Mathematics 11, Physics 4 and Electrical Engineering 4. A study of transmission lines, resistance and inductance effects in line circuits, kinds of apparatus used in the generating station and in the receiving station, arc and incandescent lamps, special forms of lamps, indicating and recording instruments, laboratory work along the lines of lamp testing and the calibration of instruments.

7. Polyphase Currents. Three recitations and two laboratory periods a week, first semester; required for the fifth year degree in Electrical Engineering; prerequisite, all work required for the Bachelor's degree in this department. A study of polyphase currents, machines, transmission systems and measuring apparatus; experimental work in connection with polyphase currents.

8. Electrical Design. Three laboratory periods a week, first semester; required for the fifth year degree in Electrical Engineering; prerequisite, all the work required for the Bachelor's degree in this department. A study of the design of transformers, alternating current generators, induction motors, or some special kinds of apparatus, and the principles involved in the construction of the above.

9. Power Stations. Two recitations and three laboratory periods a week, second semester; required for the fifth year degree in Electrical Engineering; prerequisite, Electrical Engineering 7 and 8. A study of the different types of stations, arrangement of boilers, engines, machines, switchboards and electrical apparatus, location of station with respect to distributing system; station operation and maintenance. A station design is worked out by the student and drawings of plans made, while according to circumstances, more or less of the laboratory time will be spent on experiments and tests relating to plant operation and control.

10. Long Distance Transmission. Two recitations or lecture periods per week, second semester; required for the fifth year degree in Electrical Engineering; prerequisite, Electrical Engineering 1 to 7 inclusive. Study of long distance line construction, protective apparatus, switchboards, cutouts, regulating devices, etc., as exemplified in the latest practice; study of recent construction and installations, and application of theory. Present construction and installations, and application of theory. Present theoretical and practical limita-

tions to efficient and profitable distribution over large areas, and the possibilities of future development.

11-12. Thesis. Two or three hours a week, first and second semesters. A complete investigation of some electrical subject or apparatus or the design of a machine or other electrical appliance, containing when possible the results of personal and independent observation. The subject must be selected early in the year (not later than November first,) and reports submitted from time to time concerning the progress of the work to the professor in charge.

Department of Civil Engineering

PROFESSOR DERR

The course in civil engineering is designed to impart to students general and technical knowledge, so that, equipped with their theoretical education and as much of engineering practice as can well be acquired in college, they may develop into successful practitioners.

It is aimed to give as thorough a preparation as time will permit in the following subjects: the surveying of land, location and construction of roads, railroads, canals and water works; the construction of foundations in water and on land, and of superstructures and tunnels; the application of mechanics, graphical statics, and descriptive geometry to the construction of various kinds of arches, trusses, roofs, and bridges; the sewerage of towns, and the irrigation and reclaiming of land; the preparation of detail drawings, and plans and specifications; the laws of construction as related to contracts, bids and bidders; political economy for the purpose of making clear the economic value of the civil engineer as a director of industrial enterprises.

1. Surveying. Five periods of recitation and field work a week, second semester; required in the freshman year of the Civil Engineering Course; prerequisite, Mathematics 9. General principles and fundamental operations; instruments; the declination of the magnetic needle; laying out, parting off and dividing up land; United States land surveys. Text: Tracy's Plane Surveying.

2. Surveying. Two periods of recitation and field work a week, second semester; required in the Agricultural, Mechanical Engineering and Electrical Engineering Courses; elective in the General Science Course, freshman year. An abridged course for other students in engineering and agriculture, along the lines of Civil Engineering 1.

3. Surveying. Five periods of recitation and field work a week, first semester; required in the sophomore year of the Civil Engineering Course. A continuation of Civil Engineering 1. Leveling, higher surveying; adjustment of instruments; topography and exploratory surveying; plane and tachymetric surveying.

4. Topographical Surveying. Two periods of recitation and field work a week, second semester; required in the sophomore year of the Civil Engineering Course; prerequisite, Civil Engineering 1. Triangulation, precise leveling. Transit stadia lines, connecting with triangulation stations, form the basis for the topography, and plane-table practice is given in filling in the details. Maps are plotted to scale from the co-ordinates of the stadia lines, adjusted to the triangulation, and contours are drawn. Recitations, field work, computations and drawings. Text: Wilson's Topographical Surveying.

5. Hydraulics. Three recitations a week, first semester; required in the junior year of the Civil Engineering Course, in the senior year of the Mechanical and Electrical Engineering Courses; prerequisite, Mathematics 11. Hydrostatics and theoretical hydraulics; study of flow through orifices, tubes, pipes, over weirs, in conduits, canals and rivers; application in engineering, water-power plants and development. Text: Merriman's Hydraulics.

6. Geodesy. Three periods of recitation and field work a week, second semester; required in the junior year of the Civil Engineering Course; prerequisite, Mathematics 11 and Civil Engineering 1. Construction and use of instruments with reference to the elimination of instrumental errors; precise leveling; methods of sounding; development of the method of least squares, with application to survey problems and to the adjustment of a triangulation. Text: Crandall's Geodesy and Least Squares.

7. Water Supply. Two recitations a week, second semester; required in the junior year of the Civil Engineering Course; prerequisite, Civil Engineering 5. The design, construction, operation and management of municipal water supply systems. Text: Turneaure and Russell's Public Water Supplies.

8. Irrigation. Two recitations a week, second semester; required in the junior year of the Civil Engineering Course; prerequisite, Civil Engineering 5. The principles underlying the design and construction of irrigation works; hydrography, canals, storage reservoirs. Text: Wilson's Irrigation Engineering.

9. Masonry and Foundations. Two recitations a week, second semester; required in the senior year of the three Engineering Courses; prerequisite, Mathematics 11 and 13. Building stone, retaining and reservoir walls and dams, arches; mechanics of masonry construction; foundations on land and water; coffer dams, caisson and crib dams; pneumatic caissons. Text: Baker's Masonry Construction.

10. Sewerage. Two recitations a week first semester; required in the senior year of the Civil Engineering Course. A study of the design, construction and operation of sewer systems, and of the various methods of sewerage disposal; water purification. Text: Folwell's Sewerage.

11. Roads and Pavements. Two recitations a week, first semester; required in the senior year of the Civil Engineering Course. Construction and maintenance of city streets and country roads; study of pavements and paving materials. Text: Baker's Roads and Pavements.

12. Contracts and Specifications. Two recitations a week, first semester; required in the senior year of the Three Engineering Courses. Synopsis of the law of contracts as applied to engineering construction; study of typical contracts and specifications; riparian rights, boundary lines, survey descriptions, etc. Text: Johnson's Engineering Contracts and Specifications.

13. Railroad Engineering. One recitation and two periods of field work a week, second semester; required in the senior year of the Civil Engineering Course, and for the fifth year degree in Mechanical and Electrical Engineering; prerequisite, Civil Engineering 1. The field work includes the laying out of curves and the staking out of structures, in addition to making the reconnaissance, preliminary and location surveys for a short line of railway; recitations, lectures, field work and drawing. Text: Raymond's Elements of Railroad Engineering.

14. Dam and Reservoir Design. Two laboratory periods a week, second semester; required in the senior year of the Civil Engineering Course; prerequisite, Civil Engineering 5, and Mathematics 11 and 13. The study of modern hydraulic construction; dams, reservoirs, conduits, levees, etc. Structures relating to water power, canals and irrigation.

15. Structural Design. Five periods of recitation and laboratory work a week first semester; required for the fifth year degree in Civil Engineering; prerequisite, Mathematics 11, Mechanical Engineering 6. Computation of stresses in roof and bridge trusses; highway and railroad bridge trusses; center of gravity and moment of inertia. Text: Merriman and Jacoby's Roofs and Bridges, Parts I and II.

16. Structural Design. Three laboratory periods a week, second semester; required for the fifth year degree in Civil Engineering; prerequisite, Civil Engineering 15. Principles of economic design; design of plate girder bridge, pin bridge, riveted bridge; continuous bridges, draw bridges, cantilever bridges, suspension bridges, arches; building construction. Text: Merriman and Jacoby's Roofs and Bridges, Part III.

17. Hydraulic Motors. Three recitations a week, first semester; required for the fifth year degree in Civil Engineering; prerequisite, Civil Engineering 5. A study of reaction turbines and impulse wheels; construction, regulation, testing sources of loss of energy. Text: Church's Hydraulic Motors.

18. Reinforced Concrete. Three recitations a week, first semester; required for the fifth year degree in Civil Engineering; prerequisite, Mathematics 13, Mechanical Engineering 16. A study of reinforced concrete construction, including investigation of stresses and the determination of form and proportions; recitations, computations, and drawing.

19-20. Thesis. Two and three hours a week, first and second semester; required for the fifth year degree in Civil Engineering. The thesis is intended to show the student's ability to apply the fundamental principles acquired in this course, in original investigation or design of some engineering structure, the student working independently and making regular reports showing the progress of the investigation or design to the professor having charge of the subject. The subject and the plan of the work should be submitted to the professor in charge not later than November first of the current year.

Department of English

PROFESSOR BATES, ASSOCIATE-PROFESSOR POWERS

The aim of the department is two-fold: to train the student in the effective use of the English language in original composition, and to give him an intelligent appreciation of English literature.

For a description of English 1 to 8, see the preparatory department.

9. Rhetoric. Three recitation periods a week, first semester; required of all freshmen; prerequisite, the English of the preparatory department. Much practice in composition. The work is supplemented with reading.

10. Rhetoric. Three recitation periods a week, second semester; required of all freshmen, prerequisite, English 9. A continuation of English 9.

11. English Literature from Milton to Goldsmith. Three recitation periods a week, first semester; required in the sophomore year of the General Science and Home Economics Courses and in the junior year of the Pharmacy Course; prerequisite, English 10. A study in literature with supplementary work in composition.

12. English Prose from Johnson to Morley. Three recitation periods a week, second semester; required in the sophomore year of the General Science and the Home Economics Courses. A study in literature with especial emphasis upon the forms of prose, and with practice in composition.

Note—The remaining subjects in English are elective, except that juniors in the General Science and Home Economics Courses are required to take 13 and 14, or 15 and 16, or 19 and 20. Subjects 13 and 14 are given in alternate years with 15 and 16, 13 and 14 being given in 1910-11. English 9 and 10 form the prerequisite to all the elective courses, which are open in general to either juniors or seniors.

13. English Poetry from 1798 to 1832. Three recitation periods a week, first semester. See note above. A study of Wordsworth and his contemporaries.

14. English Poetry from 1832. Three recitation periods a week, second semester. See note above. A study of Tennyson, Browning and their contemporaries.

15. English Literature from Beowulf to Milton. Three recitation periods a week, first semester. See note above. A special study is made of Chaucer; attention is also given to the development of the language.

16. Shakespeare and the Drama. Three recitation periods a week, second semester. See note above.

17-18. The English Novel. Two recitations a week, throughout the year. Owing to the large amount of reading the course counts as three hours credit each semester. See note above.

19 and 20. Bibical Literature and History. Two recitation periods a week throughout the year; elective in the junior or senior year of the General Science Course.

21. Argumentation and Debating. Three recitation periods a week, first semester; elective in the junior or senior year of the General Science Course. A study of the pirnciples of argumentation, with practice in brief writing and debating.

2. Argumentation and Debating. Three recitation periods a

week, second semester; elective to the same class as English 21. A continuation of English 21. Special attention is given to team debating and the building of complete arguments.

Department of Modern Languages

PROFESSOR HAYES

Students who pursue work along scientific, technical or historical lines are virtually compelled to have at least a good reading knowledge of either French or German, while it is becoming generally recognized that they should have both.

In the General Science, the Home Economics and the Pharmacy Courses either French, German or Latin, and in the Agriculture Course, either French or German is required during the freshman and the sophomore years. In the Engineering Courses French is required during the sophomore year. Higher work is elective and the student is strongly advised to take a third year, if possible, of the language chosen.

GERMAN

1. German. Four recitations a week, first semester; elective in the freshman year according to the above requirements. German grammar, prose and composition; constant drill in pronunciation, occasional memorizing of selected passages, and practice in speaking German. Reading is begun early. Text: Bacon's Grammar.

2. German. Four recitations a week, second semester. Continuation of German 1.

3. German. Four recitations a week, first semester; elective in the sophomore year according to the above requirements. Historical and other prose and poetry of the last century; composition and conversation. Text: Joynes-Meissner's Grammar.

4. German. Four recitations a week, second semester. Continuation of German 3. In addition there will be extensive reading of scientific German. Text: Wait's German Science Reader.

5. German. Three recitations a week, first semester; elective in the junior or senior year of the General Science Course, and in the senior year of the Home Economics Course. Lessing and Schiller, with a review of German literature up to their time. Nathan der Weise and Emilia Galotti, Die Jungfrau von Orleans and Wilhelm Tell. Themes and collateral reading.

6. German. Three recitations a week, second semester; elective in the same classes as German 5, of which it is a continuation. Goethe's life and works; Goethe and Schiller; Goethe and Carlyle; influence upon German and English literature. Faust, selected portions from both parts; Dichtung und Wahrheit or Goetz von Berlichingen. Themes and collateral reading.

FRENCH.

1. French. Four recitations a week, first semester; elective in the freshman year according to the above requirements. French grammar, prose, and composition. Thorough drill in pronunciation; reading and practice in speaking begun very early. Texts: Fraser and Squair's Grammar; Le Tour de la France par deux Enfants.

2. French. Four recitations a week, second semester. Continuation of French 1. Dictation exercises, memorizing of selected passages, conversation. Text: Super's Reader.

3. French. Four recitations a week, first semester; elective in the sophomore year according to the above requirements. Hugo, Balzac, De Musset, and other nineteenth century writers; collateral reading and conversation.

4. French. Four recitations a week, second semester. Continuation of French 3. In addition there will be extensive reading of scientific French, with Luquiens' Popular Science for text-book.

5. French. Three recitations a week, first semester; elective in the junior or senior year of the General Science Course, and in the senior year of the Home Economics Course. Corneille, Racine, La Fontaine; their lives and works; their influence on their contemporaries; the literature and society of their time. Themes and collateral reading.

6. French. Three recitations a week, second semester; open to those who have completed Frenh 5. Moliere and Voltaire; their lives and writings; their influence on French and English thought; how they were influenced by English writers, particularly Shakespeare. Themes and collateral reading.

Department of History and Political Science

PROFESSOR HARDING

The aim of this department is to introduce the student to such studies as may enable him to deal with economic problems and to fulfill his social and political duties; to develop in him the power to use critically and constructively the historical method, and especially to awaken in him an interest in the great field of history and political science and an enthusiasm for personal individual effort. Constant endeavor is made to teach the practical application of the social, political and economic experiences of the race to the problems of modern life.

The text-book is supplemented by lectures and class discussions based upon assigned readings or the original work of students. Students are encouraged in every way to make use of the college library, which is the tool house of this department.

For description of History 1 to 6, see the preparatory department.

7. Medieval History. Three recitations a week, first semester; required in the junior year of the General Science and Home Economics Courses. A general survey of the history of Europe from the barbarian invasions to the close of the fifteenth century. Lectures, text-books, papers, reports and practices in application of the fundamental principles used in testing the value of historical material. Text: Robinson's History of Western Europe.

8. Modern History. Three recitations a week, second semester; required of the same classes as History 7, of which it is a continuation. History of Europe from the opening of the sixteenth century to the present time.

9. American History. Three recitations a week, first semester; elective in the junior or senior year of the General Science Course, and in the senior year of the Home Economics Course; prerequisite, History 7 and 8. A study of constitutional and political development from 1783 to 1829. Lectures, library work, reports, and careful study of assigned sources.

10. American History. Three recitations a week, second semester; elective in the same classes as History 9, of which it is a continuation. The constitutional and political history of the United States from the beginning of Jackson's administration to the Civil War.

11. Nineteenth Century History. Three recitations a week, first semester; elective in junior or senior year of the General Science Course, and in the senior year of the Home Economics Course; prerequisite, History 7 and 8. A study of national development and of international relations between 1815 and 1870, prefaced by a brief survey of the French Revolution and Napoleonic Empire. A detailed study of the Restoration, the Revolution of 1848, the Unification of Italy and the formation of the German Empire. (Omitted in 1911-1912.)

12. Nineteenth Century History. Three recitations a week, second semester; elective in the same courses as History 11, of which it is a continuation; prerequisite, History 11. The international develop-

ment of the European nations and their international relations since 1870. In this course particular attention is paid to present day questions of European politics. (Omitted in 1911-1912.)

13. American Government. Three recitations a week, first semester; elective in the junior or senior year of the General Science Course. An advanced study of federal, state and local government in theory and practice. Lecture, text- book, collateral readings in standard authorities, and the preparation of reports upon assigned subjects.

14. American Politics. Three recitations a week, second semester; elective in the junior or senior year of the General Science Course. A study of the rise, organization and operation of political parties, and of party problems in the United States. This course includes a careful study of party platforms. Text: Woodburn's Political Parties and Party Problems, supplemented by Macy's Party Organization and Machinery, and Bryce American Commonwealth. (Omitted in 1911-1912.)

15. Economics. Three recitations a week, first semester; required in the senior year of all the four year courses except the Pharmacy Course. A study of the fundamental laws of economic science. Text -book, supplemented by lectures on special subjects and assigned readings.

16. Sociology. Three recitations a week, second semester; required in the senior year of the Home Economics and General Science Courses. The fundamental principles of social science. Text-book, supplemented by lectures and special reports.

17. Social Psychology. Two recitations a week, second semester. A study of those uniformities in feeling, belief, or volition, which are due to social causes; suggestibility; the crowd; mob mind; fashion; conventionality imitation; custom imitation; rational imitation; interference and conflict; discussion; sane and rational individuality. Text-book, reading and reports.

Department of Philosophy

PROFESSOR RODEHEAVER

The aim of this department is, in the elementary courses, to give the student some knowledge of the conditions and methods which give the most efficient results in study; in the junior courses, to give a general knowledge of the facts and laws of experience, with special emphasis upon the intimate relations of mind and body and the practical significance of these facts and laws in every day life. The prevailing theories of conduct are studied with chief attention toward encouraging a wholesome view of the leading problems of life which make for the fullest and most efficient living. The study of education may yield large value to every student, but these courses are designed primarily for those who expect to teach.

1. Logic. Two recitation periods a week, first semester; required in the freshman year in all the courses leading to the Bachelor's degree. This is an elementary course and consists chiefly of lectures with exercises for developing clearness and accuracy in thinking.

2. Logic. Two recitation periods a week, second semester; required in the same courses as 1, of which it is a continuation, with the addition of exercises in inductive reasoning based upon psychological observations and analysis.

3. Psychology. Three recitation periods a week, first semester; required in the junior year of the Agriculture, Home Economics and General Science Courses. The structure and function of the nervous system. Discussion of the different phases of mental activity. especially their origin and function. Class room discussions based upon Angell's Psychology, supplemented by assigned readings, lectures, demonstrations, and experiments.

4. Ethics. Three recitation periods a week, second semester; required in the junior year of the Agriculture, Home Economics and General Science Courses; prerequisite, Philosophy 3. The beginning and development of different views of the moral life; phychological basis; theories of the moral standard; institutionsof the moral life; practical problems in private and public morality. Course consists of lectures, discussions, and reports on assigned topics; based upon such texts as Dewey and Tufts, Paulsen, Bowne, and Mackenzie.

5. History of Education. Three recitation periods a week, first semester; elective in the senior year of the Home Economics, Agriculture and General Science Courses; prerequisite, Philosophy 3. Development of aims and methods of education from primitive peoples to modern times, noting their relation to contemporary philosophy and social life. Lectures, discussions and reports on assigned topics; based upon Monroe, Davidson, Kemp and others.

6. The Principles of Education. Three recitation periods a week, second semester; elective in the senior year of the Home Economics, Agriculture and General Science Courses; prerequisite, Philosophy 3 and 5. The aim of this course is to give the student a knowledge of psychological principles as applied to education, rather than to study

details of methods. An effort is made to reveal the essential nature and function of education and the kind of technique necessary to secure the best results in teaching. Lectures, discussions and reports; based upon texts of Ruediger, Bagley, Hall, O'Shea and others.

7. Public Speaking. Three recitation periods a week, first semester; required in the sophomore year of the General Science Course. A study of the fundamental conditions for effective speaking, approached from the psychological standpoint, but most attention is given to the study of selected speeches and the delivery of declamations.

8. Public Speaking. Two recitation periods a week, second semester; required of the same class of students as 7, of which it is a continuation. Chief attention is given to practice in extempore speaking.

Department of Mathematics and Astronomy

PROFESSON BROWN, ASSOCIATE PROFESSOR SAUNDERSON

The general work of this department is planned to cultivate habits of systematic and accurate thinking, as well as facility in making calculations. Independent effort is encouraged to the greatest possible extent, the solutions of problems and original demonstrations forming an important part of each course.

The class work in general astronomy is supplemented by the use of instruments in the observatory. These include a six-inch equatorial telescope, a transit instrument, a sidereal clock and a chronograph.

For description of Mathematics 1 to 6, see the preparatory department.

7. Solid Geometry. Three recitations a week, first semester; required in the Pharmacy and Engineering Courses, elective in the General Science Course, freshman year; prerequisite, Mathematics 6. All the important principles of the subject will be covered. Text: Sanders' Plane and Solid Geometry.

8. College Algebra. Three recitations a week, second semester; required in the Pharmacy and Engineering Courses; elective in the General Science Course, freshman year; prerequisite, Mathematics 4. Graphs, permutations and combinations, complex numbers, elementary theory of equations, determinants, partial fractions.

9. Plane Trigonometry. Two recitations a week, first semester;

required in the freshman year of the Pharmacy, Agriculture and Engineering Courses; elective in the freshman year of the General Science Course; prerequisite, Mathematics 6. The elementary notions of trigonometry; solutions of plane triangles.

10. Plane and Spherical Trigonometry. Two recitations a week, second semester; required in the Engineering Courses, elective in the General Science Course, freshman year; prerequisite, Mathematics 8 and 9.

11. Analytic Geometry. Five recitations a week, first semester; required in the Engineering Courses, sophomore year; elective in sophomore, junior or senior year, General Science Course; prerequisite, Mathematics 8 and 9.

12. Calculus. Five recitations a week, second semester; required in the sophomore year of the Engineering Courses, elective in the sophomore, junior or senior year, General Science Course; prerequisite, Mathematics 11. Continuation of Mathematics 11.

13. Analytic Mechanics and Calculus. Five recitations a week, first semester; required in the junior year of the Engineering Courses, elective in the junior or senior year of the General Science Course; prerequisite, Mathematics 12. The application of analytic geometry and calculus to the solution of mechanical problems.

14. Analytic Mechanics. Three recitations a week, second semester; required in the junior year of the three Engineering Courses; elective in the junior or senior year, General Science Course. Continuation of 13.

15. General Astronomy. Four recitations a week, second semester; required in the senior year of the General Science, Home Economics and Engineering Courses; prerequisite, Mathematics 6. The text will be covered and frequent use made of the instruments. Text: Young's Manual of Astronomy.

Department of Physics

PROFESSOR MATHEWS, MR. HOY

From the fact that physics is one of the foundation sciences and that a knowledge of its laws is necessary to every student seeking a scientific training, the department has been well fitted with rooms and appliances to provide this training. Its lecture rooms are well provided with arm-rest chairs. The laboratories are well lighted and provided with non-vibratory piers. Water, gas and electricity are provided for the recitation rooms and the dark room and laboratories.

This department is housed in the engineering and physics building. Its facilities and equipment for instruction are equal to those of any in the Northwest.

The laboratory equipment includes such expensive pieces as analytical balances, laboratory clock making electrical contact every second, cathetometer, spectroscopes, microscope, photometers, stereopticon and reflectroscope (arc light), standard cells, dynamos, electrometers, transformers, galvanometers, storage battery, induction coils, ammeters, magnetometers, voltmeters, wattmeters, Wheatstone bridges, polariscope, quadrant electrometer, lathe and wireless telegraphy and X-Ray apparatus.

The following subjects are offered in this department:

For a description of Physics 1 and 2, see the preparatory department.

3. General Physics. Three recitations and two laboratory periods a week, first semester; required in the sophomore year of the Engineering and Pharmacy Courses, in the junior year of the veterinary group, Agriculture Course; elective in the sophomore, junior or senior year of the General Science Course. Young ladies following the General Science Course may elect Home Economics 4 and 7 instead of Physics 3; prerequisite, Physics 2 and Mathematics 9. Mechanics of solids and fluids and heat with numerous examples. Static electricity and magnetism. Exact measurements of mass, distance, time, calorimetry, etc.; study of electrical and magnetic fields. Texts: Hasting and Beach; Austin and Thwing.

4. General Physics. Three recitations and two laboratory periods a week, second semester; required and elective in the same courses as Physics 3; young ladies pursuing the General Science Course may elect Home Economics 3 instead of Physics 4; prerequisite, Physics 3. Electricity and its applications in the dynamo, motor and transformer, electric light and study of electrical and magnetic fields; nature and velocity of sound, refraction and reflection of light, interference and color, laboratory work on topics mentioned. Texts: Hasting and Beach; Austin and Thwing.

5. Advanced Physics. Four recitations and one laboratory period a week, first semester; elective in the junior or senior year of the General Science Course; prerequisite, Mathematics 12 and Physics 4. Mechanics, kinematics, kinetics, mechanics of fluids and heat and its application; magnetism, static electricity, electrolysis, laboratory

work and measurements covering topics mentioned. Texts: Nichols and Franklin, Vols. 1 and 2; Nichols' Laboratory Guide.

6. Advanced Physics. Four recitations and one laboratory period a week, second semester; elective to the same class as Physics 6. Induction currents, primary batteries, electric oscillations and waves, nature and motion of sound, physical theory of music, nature and propagation of light, refraction, reflection, interference, color and polarization; laboratory work. Texts: Nichols and Franklin, Vol.3; Nichols' Laboratory Guide.

7. Heat. Three recitations and one laboratory period a week, first semester; elective in the senior year of the General Science Course; prerequisite, Physics 5. Sensibile and latent heat, dynamical generation of heat, thermometry, calorimetry, specific heat, atomic and molecular heat capacities, evaporation, ebullition, vapor densities, cooling, diathermacy, conductivity and dynamical equivalent of heat, laboratory work covering topics mentioned. Text: Preston's Theory of Heat; Maxwell's Heat.

8. Light. Three recitations and one laboratory period a week, second semester; elective to the same classes as Physics 7, of which it is a continuation. Shadows and images, spectrum, velocity of light, color, phosphorescence, fluorescence, diffraction, measuring waves, prisms and polarization; laboratory work. Text: Preston's Light.

Department of Botany

PROFESSOR OLIVE, MR. WHITE, MR. SARVIS

In the work of this department, the structure, physiology, classification and pathology of plants, and the fundamental problems of cell structure and functions are studied, as well as the direct application of botanical science to pharmacy and agriculture. This work also helps to serve as foundation for courses in forestry, plant breeding, plant pathology, etc.

The instruction aims primarily to develop the powers of accurate observation and the ability to draw correct conclusions.

Both the elementary and advanced laboratories are well equipped with microscopes and other necessary apparatus for carrying on advanced or original research work. The department also has fairly complete and convenient herbaria of the flowering plants and fungous flora of the northern United States.

1. General Botany. Two lectures or recitations and three laboratory periods a week, first semester; required in the sophomore year of the Agriculture, Home Economics and Pharmacy Courses, elective in the sophomore year of the General Science Course; prerequisite, the work of the freshman year. The general principles of biology as illustrated by plants; a study of the life histories of types of plants, including their physiology and systematic relations.

2. General Botany. Two lectures or recitations and three laboratory periods a week, second semester; required and elective in the same courses as Botany 1, of which it is continuation; prerequisite, Botany 1.

3. Economic Botany. Three recitation or lecture periods a week, second semester; required in the sophomore year of the botany group, Agriculture Course; elective in the General Science and Home Economic Courses.

4. Plant Physiology. Three recitation and laboratory periods a week, first semester; required in the junior year of the botany group, Agriculture Course; elective in the same courses as Botany 3; prerequisite, Botany 1 and 2.

5, 6. Mycology and Plant Pathology. Two laboratory and lecture periods a week throughout the year; required and elective in the same classes as Botany 4; prerequisite, Botany 1 and 2. Morphology and classification of the fungi. The plant diseases of economic importance are especially emphasized, together with the methods of prevention or of treatment.

7. Taxonomy of Pteridophytes, Gymnosperms and Angiosperms. Five recitations and laboratory periods a week, second semester; required and elective in the same classes as Botany 4; prerequisite, Botany 1 and 2. The systematic arrangement and classification of the ferns and their allies, and especially of the higher flowering plants. The structure and relationships of weeds, grasses and grains, and other plants of economic importance will be emphasized in the course.

8, 9. Cytology and Botanical Microtechnique. Five recitation and laboratory periods a week, throughout the year; required in the senior year of the botany group, Agriculture Course; elective in the senior year of the General Science Course and in the horticulture, dairy husbandry and agronomy groups of the Agriculture Course; prerequisite, Botany 1, 2 and 4. Lectures, recitations and laboratory work on the general activities, reproduction and nutrition of the plant cell. The theoretical bearing of the subject on heredity, plant breeding, etc. Methods of imbedding, sectioning and staining.

10. Pharmacognosy. Five recitation and laboratory periods a week, second semester; required in the junior year of the Pharmacy Course; prerequisite, Botany 1. The sources, characteristics, histology, identification, etc., of the common drugs.

11, 12. Investigation and Thesis. Three laboratory periods the first semester and five the second semester; required in the senior year of the botany group, Agriculture Course.

Entomology and Nature Study

PROFESSOR SEVERIN

The work of this department is conducted by means of lectures, recitations, laboratory and field work. The student is thus afforded not only an opportunity to gain familiarity with the principles and theories discussed in the class room, but is also encouraged to put these theories to the test and verify the principles in the field. In the way of illustrative material, in addition to the general museum and the entomological collections, there are a number of charts, a large number of lantern slides, microscopic slides, and alcoholic and formalin preparations. The botanical department is well provided with all the apparatus necessary for biological work and the equipment will be available for use in this department.

For description of Entomology 1 and 2, see the preparatory department.

3-4. General Entomology. One recitation and one laboratory period a week during the first semester and two recitation and two laboratory periods during the second semester; required in the junior year of the Agriculture Course; elective in the junior year of the General Science Course. A general course dealing with the anatomy, physiology, classification and life history of insects. The work of the second semester will be devoted in part to a discussion of some of the more important insect pests and methods of controlling them. This course is designed as an introduction to the practical work in economic entomology offered in courses 5 and 6 and to the systematic work offered in courses 7 and 8.

5-6. Economic Entomology. One lecture period and one laboratory period a week throughout the year; elective in the senior year of the General Science Course, and in the horticulture, botany and agronomy groups, Agriculture Course; prerequisite, Entomology 3 and 4. A detailed study in the field and lecture room of the chief economic species of insects with a study of insecticides and spraying machinery. The student will be given an opportunity of preparing sprays and gases used in combating insect pests and demonstrations will be offered in the practical application of the same.

7-8. Systematic Entomology. Two laboratory periods a week throughout the year; elective in the senior year of the General Science Course. This course, while primarily entomological, is designed to be of general use to students of biology. It has for its object not only to get the student acquainted with the more common forms of insect life, but is also designed to give the student an idea of the aims and methods of classification. Each student will be required to do his own collecting and mounting of insects; the collections of the department will be available to the student at all times for reference work.

9. Household Insects. Two lectures a week, second semester; elective in the senior year of the Home Economics Course. The household insects and related animals that are of economic importance will be especially emphasized in this course, together with methods of extermination.

10. Insects and Disease. Two lectures a week, first semester; elective in the senior year of the Home Economic Course and in the junior and senior year of the General Science Course. The greater share of the semester will be devoted to a discussion of the diseases which are disseminated through the insects and which affect man.

11. Ornithology. One lecture and one laboratory period or field excursion a week, second semester; elective in the senior year of the Home Economics Course and in the junior or senior year of the General Science Course. The lectures will deal with the various phases of bird life; the laboratory periods are designed to acquaint the student with the anatomy of various types of birds; while the field work will be devoted to studying the birds as they are found in the field, particularly with reference to their field identification, feeding and nesting habits. Each student should provide himself with a field or opera glass and a copy of Florence Merriam Bailey's Handbook of Birds of Western North America.

12. Nature Study. Three recitations a week, first semester; elective in the junior or senior year of the General Science Course and in the senior year of the Home Economics Course. This course is intended primarily for those who expect to teach in the public or high schools. Its object will be to give the nature-point of view and it will be a discussion of methods and materials as well as a course in elementary science treated from the biological side.

Department of Zoology

PROFESSOR MILLER

The work offered in this department is designed, first, to give the student a general knowledge of the principles of animal biology; second to give especial attention to technique and to the development of originality in the individual. Students contemplating the study of medicine may by a judicious selection of subjects in this and other departments secure an equivalent of the first year's work offered by the medical colleges.

The department is adequately equipped with specimens and apparatus, to which frequent additions are made.

For description of Zoology 1 and 2, see the preparatory department.

3, 4. General Zoology and Physiology. Two recitations and three laboratory periods a week, first and second semesters; required in the sophomore or junior year of the Agriculture Course, and in the junior year of the Home Economics Course; elective in the sophomore, junior or senior year of the General Science Course; prerequisite, Art 1 and all the subjects below the sophomore year.

a. General Zoology. A study of type forms of invertebrates and vertebrates, and the elements of histology and embryology. Texts and references: Hertwig's Manual of Zoology; Parker and Haswell's Text-book of Zoology; Lange's Comparative Anatomy.

b. Physiology. This subject continues throughout the last half of the second semester. Lectures, recitations, demonstrations, and required readings in advanced human physiology. Texts and references: Thornton's Human Physiology; American Text-book of Physiology; Landois' Human Physiology; Verworn's General Physiology.

Note—Students of Agriculture are required to take Veterinary 7 in place of Human Physiology during the last half of the second semester.

5, 6. Anatomical Methods. Three recitations and two laboratory periods a week, first and second semesters; required in the junior year of the Pharmacy Course. This subject is intended to acquaint students preparing for the study of medicine with anatomical nomenclature, and methods of dissection. It includes the study of the anatomy of the cat, with special reference to Physiology. Texts: Davidson's Mammalian Anatomy; Riegart and Jennings' Anatomy of the Cat; Morris' Human Anatomy.

7, 8. Histology. Five recitations and laboratory periods a week, first and second semesters; required in the senior year of the veterinary group, Agriculture Course, elective in the junior or senior year of the General Science Course; prerequisite, Zoology 3 or 5. The structure of the cell and the tissue elements together with microtechnique during the first semester; vertebrate organology, the microscope structure of vertebrates during the second semester. Texts and references: Bohm-Davidoff's Text-Book of Histology; Wilson's The Cell; Stohr's and Szymonowiczs-MacCullum's Text-books of Histology.

9, 10. Embryology. Five recitation and laboratory periods a week, first and second semesters; elective in the junior or senior year of the General Science Course; prerequisite, Zoology 3. This course is designed to meet the needs of those who desire to gain an insight into embryological problems. Besides the study of the development of a number of forms, both vertebrate and invertebrate, the work will include the study of the organization, maturation and fertilization of the egg. Texts and references: Hertwig's Text-book of Embryology; Foster and Balfour's Elements of Embryology, Korscheidt and Heider, Text-book of Comparative Embryology.

11, 12. Comparative Anatomy of the Vertebrates. Five recitation and laboratory periods a week, first and second semesters; elective in the junior or senior year of the General Science Course; prerequisite, Zoology 5 or 7. An elective designed for those students especially interested in anatomy and zoology. Text and references: Wiedersheim's Comparative Anatomy; Flower's Osteology of the Mammalia; Jayne's Mammalian Anatomy ; Huxley's Manual of the Anatomy of the Vertebrate Animals.

Bacteriology. See Department of Veterinary Medicine, course 6.

Department of Chemistry

PROFESSOR SHEPARD, MR. DUNBAR, MR. YOUNGBERG

This department is equipped with the latest and most approved appliances for instruction.

The student upon beginning the subject is assigned a desk in the main laboratory. This desk is supplied with a set of reagent bottles, gas and water fixtures. In addition to these a supply of all needful apparatus, such as test tubes, generating flasks and the like are furnished. The main laboratory, which is located on the first floor of the Chemistry and Pharmacy

Building, accommodates sixty-four students all working at the same time.

Upon completing the necessary elementary work the student now finds a quantitative laboratory at his disposal. This laboratory accommodates twenty students working together. It is supplied with all quantitative apparatus, such as precipitation flasks, desiccators, lamps and crucibles.

In connection with the quantitative laboratory is a balance room supplied with high-grade Trœmer quantitative balances. The work is so planned that the student has laboratory work together with didactic instruction throughout the course.

The experiment station laboratories are also located at this college, and their costly and technical appliances and the practical work in constant progress there are within reach for instruction.

1. Elementary Inorganic Chemistry. Five recitations and laboratory periods a week, first semester; required in the freshman year of all the courses leading to a degree; prerequisite, Physics 2. History of chemistry, elements, compounds, symbols, valence, atomic weights, chemical equations, oxygen, hydrogen, nitrogen, chlorine, bromine, fluorine, iodine, sulphur, phosphorus, silicon and their compounds. Bases, salts, acids and alkalies. The metals and their compounds, separation of metals, groups of metals and uses of their compounds. Detection of the non-metallic elements and their compounds. Text: Shepard's Elements of Chemistry.

2. Elementary Organic Chemistry. Five recitations and laboratory periods a week, second semester; required in the freshman year of all the courses leading to a degree; prerequisite, Chemistry 1. The principal classes of organic compounds, the characteristics and properties of each class and the uses of their various compounds. Detection of principal metals and the working of a list of unknowns; the detection of principal organic compounds. Text: Shepard's Elementary Organic Chemistry.

3. Quantitative Chemistry. Five recitation and laboratory periods a week, first semester; required in the sophomore year of the Agriculture, Home Economics and Pharmacy Courses; elective in the sophomore, junior and senior year af the General Science Course; prerequisite, Chemistry 1 and 2. The apparatus and its uses. Explanations of methods of quantitative determinations and reports of students' analyses. The quantitative analyses of typical chemical compounds, e. g., calcite, magnesium sulphate, metallic ores, coal, etc. Text: Olsen's Quantitative Chemistry.

4. Chemistry and Physiology of Foods. Five recitations and laboratory periods a week, second semester; required in the sophomore year of the Home Economics Course and the chemistry and veterinary groups, Agriculture Course; elective in the junior or senior year of the General Science Course and in the senior year of the dairy husbandry group, Agriculture Course; prerequisite, Chemistry 1, 2 and 3. Food nutrients, chemical characteristics and offices of same, physiology of same, metabolism, balanced rations, standard dietaries. Study of food adulterations. Experiments in digestion of foods, offices of digestive secretions. Detection of adulterants, coloring matter and preservatives.

5. Agricultural and Sanitary Analysis. Five recitations and laboratory periods a week, first semester; required in the senior year of the chemistry group, Agriculture Course; elective in the junior or senior year of the General Science Course, and in the senior year of the dairy husbandry group, Agriculture Course; prerequisite, Chemistry 1, 2 and 3. Analysis of foods, feeding stuffs, dairy products, water, etc. Use and analysis of disinfectants, germicides, etc. Lectures, Official Methods American Association of Official Agricultural Chemists.

6. Agricultural Chemistry. Three recitations a week, second semester; required in the junior year of the animal husbandry group, in the senior year of the chemistry group, Agriculture Course; elective in the junior or senior year of the General Science Course, and in the senior year of the dairy husbandry and agronomy groups, Agriculture Course; prerequisite, Chemistry 1, 2 and 3. Text: Johnson's Agricultural Chemistry.

7. Industrial Chemistry. Three recitations a week, first semester; required in the senior year of the chemistry group, Agriculture Course; elective in the junior or senior year of the General Science Course; prerequisite, Chemistry 1, 2 and 3. Chemistry of manufacturing glass, paper, sugar, petroleum, explosives, acids, water, air, mortars, pigments, photography, alkalies and gases. Demonstrations of examples including water pollution, purification, artificial illumination, petroleum, testing fermentation, air contamination, disinfection, ventilation, bleaches and dyeing. Text: Thorpe's Industrial Chemistry.

Department of Pharmacy

PROFESSOR WHITEHEAD

The work in this department is intended primarily to teach young men and women the science of pharmacy.

The work of the preparatory department is prerequisite to the subjects of this department.

The students finishing the two-year course in Pharmacy may receive the degree of Pharmacy Graduate (Ph. G.). This is the only course of the kind offered in the state and receives the hearty commendation of the State Board of Pharmacy.

This department meets both the preparatory and professional requirements of the New York Educational Department with which it is registered in full. It is also a member of the American Conference of Pharmaceutical Faculties.

This line of work offers many inducements to young men. The requests of the druggists of the state for our graduates are far in excess of the supply and the pure food and drug laws have opened up a new field for young men who are competent drug and food assayists.

The two years of pharmacy work may all be applied towards the degree of Bachelor of Science which is given upon completion of the four-year course in Pharmacy. This longer course is recommended to those who intend to take up the study of medicine or dentistry, or who wish to prepare for teaching the sciences in the high schools of the state.

The fees for work in this department are the same as for other college work, *i. e.,* six dollars tuition and two dollars for each laboratory period per semester.

With the exceptions of 10 and 11 the following subjects are all required for both the degree of Pharmacy Graduate and the degree of Bachelor of Science in Pharmacy.

1. Pharmacy Latin. Five recitations a week, first semester, junior year. The subject is taught with special reference to its application in pharmacy. The vocabulary employed is strictly pharmaceutical. Text: Robinson's Grammar of Pharmacy and Medicine.

2. Materia Medica. Five recitations a week, first semester, senior year; also elective in the General Science Course. Medicinal properties, doses and poisonous effects of the various medicines, together with the antidotes which the pharmacist may be required to administer in an emergency, will receive full and careful treatment. Text: Potter's Materia Medica, Pharmacy and Therapeutics.

3. Materia Medica. Five recitations a week, second semester, senior year. Continuation of Pharmacy 2.

4. Pharmacy. Five recitations a week, first semester, senior year; prerequisite, Chemistry 2. Forms and uses of pharmaceutical apparatus, weighing by apothecary and metric systems, specific gravity of solids and liquids, heating apparatus, determination of boiling and melting points, distillation, comminution, solution, precipitation, filtration, crystallization, percolation, and study of official medicines, waters, syrups, mucilages, mixtures, spirits, elixirs, liniments, infusions, tinctures, fluid extracts, oleoresins and extracts. Text: Remington's Practice of Pharmacy.

5. Pharmacy Laboratory. Three laboratory periods a week, first semester, senior year. Preparation of waters, syrups, mucilages, etc., mentioned in Pharmacy 4, and must be taken up in connection with it. Text: Remington's Practice of Pharmacy.

6. Pharmaceutical Problems. Two recitations a week, first semester, senior year. Relationship of metric, apothecary, and imperial systems of weights and measures, specific gravity, specific volume percentage problems, concentration and dilution, alligation and chemical problems. Text: Olberg's Pharmaceutical and Chemical Problems.

7. Pharmacy. Five recitations a week, second semester, senior year; prerequisite, Pharmacy 4 and 5. Official inorganic salts and their compounds, solutions, emulsions, powders, pills, ointments, and plasters; reading prescriptions. Texts: Remington's Practice of Pharmacy, Ruddiman's Incompatibilities in Prescriptions.

8. Pharmacy Laboratory. Five laboratory periods a week, second semester, senior year; prerequisite, Pharmacy 5 and 6. Compounding of prescriptions, making of inorganic salts, solutions, emulsions, powders, pills; reading and compounding prescriptions. Must be taken same term as Pharmacy 7. Texts: Remington's Practice of Pharmacy, Ruddiman's Incompatibilities in Prescriptions, Olberg's 1,500 Prescriptions, National Formulary.

9. Volumetric Analysis and Drug Assaying. Five recitations and laboratory periods a week, second semester, senior year; also elective in the sophomore year of the General Science Course; prerequisite, Chemistry 3. There are at present in the U. S. Pharmacopoeia 149 volumetric and 35 gravimetric assays. In this subject we endeavor to give enough of this work to enable a student to make any of these assays in an intelligent and accurate manner. The students are required to make their own volumetric and indicator solutions. A short course in urine analysis is given in connection with this work. Texts: U. S. Pharmacopoeia, Schimpf's Volumetric Analysis, Lyon's Pharmaceutical Assaying; lecture notes by the teacher.

10. Veterinary Materia Medica. Three recitations a week, second semester; required in the junior year of the veterinary group, Agri-

culture Course. A study of the medicinal properties, doses, and uses of the principal drugs used in veterinary medicine. Texts: Winslow's Veterinary Materia Medica and Therapeutics.

11. Chemical Toxicology. Five laboratory periods a week, first semester; prerequisite, Pharmacy 3 and 9. Separation and identification of poisons. Texts: Reeses' Medical Jurisprudence and Toxicology, Antenrieth's Detection of Poisons, Blyth's Poisons, their Effect and Detection.

Department of Music

EDMUND SERENO ENDER
Voice, Piano and Theoretical Branches

FRANCIS J. HAYNES
Voice and Band Instruments.

CARL CHRISTENSEN
Violin, Stringed Instruments.

RUTH MARIAN WESTCOTT
Assistant in Piano and Harmony.

DEPARTMENTS.

1. Piano, piano ensembles.
2. Voice, choral organizations.
3. Violin, stringed instruments, orchestra.
4. Band instruments.
5. Theoretical studies, as harmony, history of music, etc.

FREE ADVANTAGES.

1. Faculty recitals.
2. Choral organizations.
3. Elements of music class.
4. History of music class.
5. Harmony class.
6. Composition.
7. Orchestra.
8. Pupils' recitals.
9. Piano practice.
10. Sight singing class.
11. Band.

The demand at the present time is for men and women who are equally developed morally, mentally and physically.

The chief function of music is to express and excite emotion, hence the pursuance of the study of music tends to develop the emotional powers, and to refine and uplift the moral qualities. As the proper study of music requires as much mental concentration as any other line of study, it is equally strengthening to the intellect.

The aim of this department is to furnish the best methods for the acquirement of a thorough musical education and to provide adequate instruction for those who intend to become teachers of music.

Opportunity is offered, in connection with the College, for a liberal and practical education, and the heads of the various departments are particular to urge students of music to avail themselves of this opportunity. A mere technical training will not suffice. The most successful teachers and students are those who seek the broadest intellectual development.

The prices charged for tuition in the music department are very reasonable when one considers the many free advantages that are offered.

EXPENSES.

The following fees will be charged per semester for instruction under the various instructors:

Voice or Piano (professor of music), two half hour lessons a week, $18.00.

Piano (assistant), two half hour lessons a week, $15.00.

Voice (associate professor of music), two half hour lessons a week, $18.00.

Violin, viola, cello (head of violin department), two half hour lessons a week, $18.00.

Theoretical branches—Free to all eligible students enrolled in department of music, and to those electing them in the General Science and Home Economics Courses.

Piano practice—Free to all students enrolled in the department of music.

Special fees will be charged short course students who desire to pursue any of the branches in the department of music.

Diplomas, $2.00.

RECITALS.

Public and private recitals are given frequently by the various members of the faculty and by students. Students are required to take part in any of these recitals, if prepared. This serves as a special impulse towards earnestness and many accomplish much better work under such an incentive. Aside from this, frequent appearance before others tends to give the student that necessary self-control and repose without which it is impossible to become a finished performer. Attendance at all recitals is obligatory upon all students enrolled in either the academic or collegiate courses.

CHORAL ORGANIZATIONS AND ORCHESTRA.

A male glee club and a ladies' chorus are organized at the beginning of the year, to which any student or faculty member of the college is eligible at the recommendation of the professor of music. The two separate organizations are combined the last half of the year as a choral union, the intention being to render some of the choral masterpieces and oratorios and cantatas. All vocal students, and piano and violin students who are eligible, are required to attend the choral union rehearsals unless excused by the chorus leader.

A college orchestra is also maintained, to which any student who is qualified is eligible.

PLAN OF STUDY.

The plan of study consists of two general courses, the Academic and the Collegiate Courses in Music, and the Preparatory Course.

The Preparatory Course is designed for beginners or for those who have not been thoroughly trained in the rudiments of music, and prepares the student for entrance into the Academic or Collegiate Courses. The time generally required to prepare for entrance into the courses mentioned will vary from one to two years.

The aim of the Academic Course is to enable those students who do not care to complete a course of music leading to graduation to become proficient as performers, and to give them a fair knowledge and appreciation of the educative principles of music. At the completion of this course the student will be granted a certificate of proficiency or attainment.

The Collegiate Course leads to graduation and consists of three years' work. Students upon completing the requirements for the second year's work will be granted a teacher's certificate, and upon completing the third year's work will receive a diploma.

It is impossible to give a definite outline of the course of study to be followed, as it will vary according to the pupil's ability. However, some things must be studied, and beyond that the instruction is adapted to the personal needs of each student. The work offered in the different lines of music is described below.

PIANOFORTE.

The preparatory work in piano embraces eight distinct subjects: (a) mind training; (b) physical development; (c) ear training; (d) technic; (e) rhythmic studies; (f) sight reading; (g) sight playing; (h) memorizing.

Selection will be made from the following list of studies in pursuing this course:

Kohler Studies; Czerny (Liebling's Book I); Gurlitt studies; Loeschhorn, Op. 65 and 52; Kunz, 200 canons; easy studies by Bach; Kuhlau's Sonatinas; MacDougall's studies in melody playing; easy pieces by modern composers and masters also. Other studies by good composers, not mentioned, may be used.

The piano work required for graduation in the Collegiate Course in Music extends throughout three years and is as follows:

First Year.

Heller, selected studies (Presser edition); Czerny, (Liebling's Book II); Duvernoy, Op. 120; Henning's Fugues and Fugettas; Czerny Op. 553 (Octaves); Bach's two voiced inventions; Cramer-Buelow; Beethoven, variations; Beethoven, Sonata, Op. 49; Mozart Sonata; piano solos by modern and romantic composers.

Second Year.

Bach inventions (three voiced); Bach and easy Fugues and Preludes; pedal studies; Beethoven sonata, Op. 79; Czerny, Op. 740;

Mendelssohn, Song Without Words; Kullak octaves; Moszkowski's scales; solos by Grieg, Schubert, Chopin, Schumann and modern composers; first or last movement of a concerto, ensemble work.

Third Year.

Bach, well-tempered clavichord; Chopin, Op. 10 and 25; Concerto —Mozart, Beethoven, Mendelssohn, or some other composer; Kullak, octave studies; Suite—Grieg or Schumann; Liszt, transcription and original compositions; ensemble work; solos by the masters, both modern and classical; Sonata—Beethoven, Scarlatti or Schubert.

Post graduate work is also offered in this department in the following studies:

Czerny, School of Virtuosity; Bach, organ fugues transcribed by Liszt; Bach—partitas and suites; Scarlatti's sonatas; Chopin, etudes and compositions; Schubert, sonatas and impromptus; Schumann, noveletten. Selections by Brahms, Rubinstein, Henselt, Moszkowski and others. Beethoven sonatas; Concertos—Beethoven, Rubinstein, Chopin and others.

Opportunity is offered to Post graduate students for work in Advanced Theory, *i. e.*, Free Composition, Orchestration, etc.

VOICE.

The preparatory work is as follows:

Simple exercises in tone placement and breath control. Interval study. Scales and Arpeggio. Concone School, Neidlinger and Seiber Vocalises. Simple songs for application of principles. Class work, Solfeggio.

The work in voice required for graduation in the Collegiate Course in Music scheduled below extends throughout three years, as follows:

First Year.

Tone placement and breath control. Scales and Arpeggios· Legato and Stacatto; Concone daily exercises and vocalises. Panofka, Lamperti and Bordogni vocalises. Song study in phrasing and interpretation. Class work, Solfeggio and choral.

Second Year.

Tone placement and breath control. Daily exercises by Bonaldi, Marchesi and Lablache; vocalises by Panofka and Nava; Spicker Masterpieces; Vaccai Italian studies. Study of the best Standard and Modern Classic Songs. Class work, Normal work in Solfeggio and Methods (optional) and choral.

Third Year.

Study of trill and other musical embellishments. Velocity studies by Giraudet, Viardot and others. Spicker masterpieces; Lamperti studies in Bravura; Bordogni vocalises. French, German and Italian songs. Oratorio and operatic arias. Formation of repertory. Class work, choral.

VIOLIN.

The preparatory work is as follows:

Position, tone production on open strings; most important rudiments of musical theory in general; Hofmann's Violin School, Book I; Duets by Gebauer and Mazas; easy solos by miscellaneous composers for violin with piano accompaniment.

The work in violin required for graduation in the Collegiate Course in Music scheduled below extends throughout three years, as follows:

First Year.

Two octave scales in all major and minor keys. Kayser's Etudes Op. 20, Book I; Wohlfart Studies, Op. 45, Book I; Mazas, Op. 38, Duos for Violin and Piano, Book II; miscellaneous solos for violin with piano accompaniment.

Second Year.

Three octave scales in all major and minor keys; Kayser's Etudes Op. 20, Book I; Wohlfart Studies, Op. 45, Book I; Mazas, Op. 38, technical studies; Schubert Sonatinas, Op. 137, for violin and piano; miscellaneous solos for violin with piano accompaniment.

Third Year.

Etudes by Kreutzer, Mazas, Dont and Rode; Schradiecke's technical studies; Sonatas by Mozart and Beethoven; miscellaneous solos by Wieniawski, Mendelssohn, De Beriot, etc.; Concertos by Viotti, De Beriot, etc.

THEORY OF MUSIC.

The subjects along this line extend throughout the three years of the Collegiate Course in Music and are as follows:

First Year.

(Classes conducted by Miss Westcott)

First Semester.

1. Elements of Music. Two recitations a week. Principles of notation ;study of rythm, mensural drills; study of dynamic symbols, abbreviations, etc.

2. Elementary Harmony. Two recitations a week; scale building, diatonic and chromatic, drills in recitation of scales and chords; interval study; formation of major and minor triads; construction of seventh chords; key and chord relationship; ear training and dictation.

Second Semester.

3. Elements of Music. Two recitations a week. Musical nomenclature; movement; scale and interval study; ear drills; dictation.

4. Elementary Harmony. Two recitations a week. Chord analysis, simple part writing and study of chord succession; study of dominant seventh, minor ninth and diminished seventh chords and their resolutions; practical keyboard work and ear drills.

Second Year.

(Classes conducted by Prof. Ender.)

First Semester.

5. Harmony. Two recitations a week. Part writing in four parts, open and closed harmony, study of triads, seventh chords and their resolutions, chords of the augmented sixth, chords and their resolutions, and practical keyboard work.

6. History of Music. One recitation a week; elective in the senior year of the Courses in General Science and Home Economics. Purposes of study; music of ancients; music of Greeks; ecclesiastical systems; notation; music outside the church; Polyphonic Era; various schools; church polyphony music reform; musical instruments; organ and early organists; beginning of opera and oratorio; Neapolitan school; early singing and singers; French and English opera; German opera; evolution of the piano-forte; early English and French clavier schools; German polyphonic clavier school; German sonata composers to Haydn. Text: Baltzell.

Second Semester.

7. Harmony. Two recitations a week. Melody writing and harmonizing of a given melody, modulation and improvisation in a given key. Harmonic and melodic analysis of the classics. Practical keyboard work.

8. History of Music. One recitation a week; elective in the senior year of the Courses in General Science and Home Economics. Haydn, Mozart, Beethoven; Beethoven and sonata; violin and makers, violin playing and violin music; orchestra and absolute music· romantic opera; Italian school of 19th century; Wagner's music dramas; other schools; piano playing and composition; Clementi to Field; Romantic school and its masters; pianists and teachers since Liszt; Oratorio after Mendelssohn symphonic poem in Germany; German opera since Wagner; old and new schools in France; musical regeneration in Italy, England and the Netherlands; National schools, Bohemia and Scandinavia; music in the United States; American composers; musical education.

Third Year.

(Classes conducted by Prof. Ender.)

First Semester.

9. Advanced Harmony. Two recitations a week. Melody writing. Harmonizing of melodies; improvisation; single and double counterpoint.

Second Semester.

10. Advanced Harmony. Two recitations a week. Canon and fugue; analysis of fugues; original compositions.

Department of Art

MISS CALDWELL, MISS GODDARD

The aim in arranging the subjects in this department has been to offer such work as shall correlate with other college courses in becoming a means to a general education. The object of the work is to cultivate an appreciation of beauty and to develop technical skill.

The department is equipped with a good collection of casts and photographs, and with such tools as are necessary for class work.

A diploma is given to students who satisfactorily complete a course in academic drawing and painting, consisting of Art 1, 2, 6, 7, 8, 9 and 10, or a course in decorative design and handicraft, consisting of Art 1, 2, 4, 5, 6, 7, 11.

The time necessary to secure a diploma depends on the ability of the student, three years being an average length of time, although the work may be extended over a longer period and carried with a regular college course.

For description of Art 1 and 2 see the preparatory department.

3. Theory of Design. Two recitations a week, second semester; required in the freshman year of the Home Economics Course; prerequisite, Art 1. This subject treats of the principles of design and their practical application in the home. The history of ornament is briefly reviewed.

4. Theory and Practice of Design. Four laboratory periods a week, first semester; elective in the senior year of the General Science Course; prerequisite, Art 1. Two periods a week for lectures and criticism of original designs and three periods for the carrying out of the designs in various crafts, such as leather, metal work, and wood-carving.

5. Theory and Practice of Design. Four laboratory periods a week, second semester; elective in the senior year of the General Science Course; prerequisite, Art 1 and 4. Continuation of Art 4, with the addition of the study of historic ornament.

6. Art History. Two recitations a week, first semester; required in the Home Economics Course, elective in the General Science Course, senior year. History of architecture and sculpture.

7. Art History. Two recitations a week, second semester; required in the Home Economics Course, elective in the General Science Course, senior year. History of painting. Reference books in the general library, and a collection of photographs in the department furnish material for this course.

8. Antique Class. Five hours a week, first and second semesters; elective to students pursuing special work in art; prerequisite, Art 1 and 2. Study of heads from the antique in full light and shade for construction and modelling; figure drawing from the antique; sketching from life.

9. Study of Values. Five hours a week, first and second semesters; elective to students pursuing special work in art; prerequisite, Art 1 and 2. Value studies in charcoal and still-life as preparatory work for painting.

10. Painting. Two laboratory periods a week, first and second semesters; elective to students pursuing special work in art; prerequisite, Art 9. Still life and flowers in oil, pastel and water-color.

11. Design and Handicraft. Four hours a week, first and second semesters; elective to students pursuing special work in art; prerequisite, Art 5. Plant and animal forms in designs, original designs in color to be applied in the crafts, and in needle-work in the home economics department. The crafts offered are leather, metal-work, jewelry, wood carving, stenciling, pyrography and basket-weaving.

12. Normal Course. Five hours a week, first and second semesters; elective to college students; prerequisite, Art 1. In this course such work is given in drawing, color, and design, as will be an aid to students intending to teach in the public schools. Outlines for the different grades are discussed.

Department of Military Science and Tactics

MAJOR CHRISMAN, COMMANDANT

The work of this department is conducted in accordance with War Department orders promulgated pursuant to Acts of Congress.

Instruction in military science and tactics in educational institutions throughout the United States forms a part of the present general system of military training; its function is to impart to the college youth of the land knowledge of the elements of military science and the duties of the soldier in the garrison and in the field in order that the people may receive the benefit of more efficient service when final resort to arms to sustain the national honor or to enforce the laws shall become necessary.

Direct benefits of lasting value are received by the individual cadet which contribute to strengthen his physique and mentality, the better to fit him for the duties of life.

The instruction is both practical and theoretical, as follows:

PRACTICAL.

Infantry drill regulations; firing regulations for small arms; field service regulations; manual of guard duty. Three hours a week required for all able bodied male students of the sophomore, freshman and preparatory classes, the school of agriculture, and special students; optional for seniors and juniors, who may elect further work in the department subject to approval; they may also be required to turn out on special occasions by direction of the commnadant upon approval of the president.

THEORETICAL.

Infantry drill regulations; firing regulations for small arms; field service regulations; manual of guard duty; army regulations. This course is progressive and required for commissioned and non-commissioned officers, one hour a week, one semester, or equivalent. Lectures by the Commandant on various military subjects will be delivered monthly before all cadets. Elements of Military Science; additional requirement for sophomores, one hour a week, second semester.

THEORETICAL—ELECTIVE.

Field Service Regulations and Military Engineering. Junior year, first semester, one hour a week.

Applied Tactics. Junior year, second semester, one hour a week.

Military Law. Senior year, first semester, one hour a week.

International Law. Senior year, second semester, one hour a week.

Further advanced work may be elected with appropriate credit, subject to the approval of the faculty.

All students herein referred to constitute the corps of cadets and are organized for the purpose of drill and administration as an infantry battalion, with a band to which qualified cadets are specially assigned.

The appointment and promotion of commissioned and non-commissioned officers are made in accordance with merit by the commandant subject to the approval of the president.

The College is provided by the U. S. government with the equipment necessary to conduct the department. Each cadet must provide himself with the prescribed uniform.

The following is an extract from War Department orders:

"Upon the graduation of every class, the professor of military science and tactics, after consultation with the president of the college * * *, will decide upon and report to the Adjutant General of the Army the names of such students belonging to the class as have shown special aptitude for military service, and will furnish a copy of his report to the Adjutant General of the State for his information."

Department of Commerce

PROFESSOR STARRING

The department of commerce occupies commodious quarters on the second floor of the central building. These rooms are well suited to the work of the department and supplied with equipment for thorough instruction in business subjects.

The work of this department includes two courses: one for High School graduates, the Secretarial Course; and the other, the regular commercial course, which combines preparatory subjects with business branches and covers a period of four years.

The Secretarial Course will be offered for the first time next year. It is intended to serve those graduates of our high schools who cannot take a regular college course but who would avail themselves of an oportunity to secure a thorough training for secretarial work or business. The course is a combination of the work of the freshman year in college and the more important subjects of the course in commercial science.

With the modern advances in office practice and methods in commercial correspondence, the demand upon the private stenographer are such that he should be more than a mere amanuensis or mechanical device for turning out letters. The responsibilities thrust upon him are of such nature that he should have a thorough secretarial training. In order to be successful he must be trained to do independent thinking, must have self confidence, and be able to shoulder responsibility. It is to fulfil these requirements that the course is offered.

The work of the regular course includes both shorthand and general commercial training, which are so arranged that they are taken as a part of the preparatory course by those who wish to obtain a business education together with a broad general knowledge. Those who have not completed the equivalent of a high school course should follow the course in commercial science as outlined in the schedule of the preparatory department. High School graduates will of course find the one year secretarial course well adapted to their needs. To enter the classes in shorthand a student should have a preliminary English training of about three years.

The following is an outline of the two courses:

THE SECRETARIAL COURSE.

First Semester.

Business Law. Including a practical analysis of contracts; negotiable paper; agency; partnership and corporations; personal and real property; suretyship, guaranty and insurance; the management of decedents' estates. Lectures and text-book work supplemented with the study of actual cases. Special lectures by local and visiting attorneys.

Commercial Methods. A practical study of the ordinary methods of business; letter writing; manifolding; filing; uses and forms of commercial paper; railroad and express shipments; postal and telegraph usages; office appliances; business penmanship.

Freshman Rhetoric. A college course affording practice in composition, supplemented with reading. This course is intended to develop the power of writing correct English.

Logic. A college course consisting largely of lectures, with exercises to develop clearness and accuracy of thinking.

Shorthand. Theory; drills to develop ability in writing sounds. Study of word-signs; simple dictation. Pitmanic system.

Typewriting. Drills for learning key-board by touch method; business and legal forms; manifolding and letter press; mimeographing; care of machine. Each student will be made familiar with standard typewriters.

Elementary Accounting. A brief course to acquaint the student with the elements of business bookkeeping, the knowledge of which is essential, whether actually used by the student or not.

Second Semester.

Money and Banking. A theoretical and practical study of money and its uses; money and credit funds; their instruments of transfer; the commercial bank; savings bank; trust company; building and loan association; brokerage; organization and operation of various banking institutions; legal regulations. A practical course not usually given in commercial schools.

Logic. A continuation of the work of the first semester; exercises in inductive reasoning based upon psychological observations and analysis.

Rhetoric. A continuation of the first semester's course. Too thorough a study of English cannot be made by the student who expects to become a first-class secretary.

Shorthand and Typewriting. A practical continuation of the work of the first semester. Dictation, including all forms of correspondence and legal matter; polite letter writing; terse business diction; special practice anticipating certain office work or civil service. The typewriting will be based upon shorthand dictation.

Secretary Practice. Afternoon appointments with college offices or business firms in town. Each student will be carefully "checked up" on this work. The practice will be of great value in giving preliminary experience, and will remove the fear of entering the first regular office work upon graduation.

Secretary's Certificate. Students who pass satisfactory examinations will be given a certificate. To be eligible for this special Secretary's Certificate, the student must be regularly enrolled as a High School Graduate.

Positions. Graduates of this department have no difficulty in obtaining satisfactory positions. As a rule, they are all spoken for some time previous to their completing the course. The demand must wait for the supply. High School graduates, on account of their superior training, ought to have first choice of positions. They are more sought after because their mental capacity is much greater than that of the ordinary commercial school product.

Civil Service. It is a notable fact that the United States government is in constant need of more stenographers and secretaries than it can obtain. The examination requirements are often lowered in order to secure the help it needs. Initial salaries for first-class stenographers are very good, and promotions are frequent. Our special secretarial course affords an admirable preparation for civil service examination.

College Life. Not the least advantage in securing your business training here is that of college life itself. Association with students from various parts of the state, and with students who are here for various purposes, cannot be otherwise than helpful and broadening to one's mental horizon. College society, clubs, lectures, athletics, and library facilities combine to make the South Dakota State College the ideal place to get the training you desire.

THE REGULAR COMMERCIAL COURSE.

The following subjects are offered in the regular four year course in commercial science. For complete schedule see outline of the preparatory course.

1. Commercial Methods. Three hours a week first semester. This course is designed to acquaint the student with the elementary principles of business methods; letter writing; bills, invoices, statements of account and receipts; elementary banking; notes, interest, bank discount; drafts, money orders and letters of credit; miscellaneous commercial paper; contracts, leases, guaranties and bonds. Business penmanship.

2. Commerce and Industry. Three periods per week second semester. Continuation of work of first semester; study of industry and commerce, local, national, and international. This course will be illustrated by the use of a commercial museum now being collected. The student will be required to learn the use of government reports and other sources of information in collecting data.

3. Bookkeeping. Three laboratory periods per week, first semester. Single and double entry studied as in actual business; the aim being to acquaint the student with the fundamental principles of bookkeeping. Students who are deficient in penmanship will be required to take course 1.

4. Bookkeeping. Three laboratory periods per week second semester. Advanced bookkeeping, affording practice with the more complex books and forms used in modern offices. Special attention given to the accounting books of commission, general merchandise, wholesale and retail business, manufacturing and banking. By the use of separate price lists, each student will be obliged to do independent study and thinking. In this course the student becomes familiar with the uses of various kinds of commercial paper and office practice.

5. Shorthand. Five recitations per week first semester. In this course the student masters the theory of shorthand; dictation of simple business letters to develop facility in handling writing materials; drills on principles, characters and word-signs. Pitmanic shorthand is taught. Nothing but the very best work is accepted, for it is time wasted to prepare second and third rate stenographers for office work.

6 and 8. Typewriting. Five periods a week first semester. Five

6-8. Typewriting. Five periods a week first semester. Five to ten periods a week second semester. Graded exercises to learn machine by touch method; care of machine; correspondence and legal forms; manifolding and mimeographing; billing and tabulating. The work of the second semester will be based upon shorthand dictation. The student will be required to develop the ability to read and transcribe his notes readily and accurately. Each student is to collect a port-folio of his typewritten work which has been accepted by the instructor of typewriting.

7. Shorthand. Five recitations per week second semester. Dictation of business letters and general matter to develop speed; legal forms; civil service matter. Student is not allowed to develop speed carelessly at the expense of legibility. With this course, the student makes a study of commercial correspondence and the most approved forms in letter composition. All dictated matter is transcribed on typewriter.

9. Business Law. Three recitations a week first semester. Designed to acquaint the student with the fundamental principles of business law, supplemented with a study of actual cases illustrative of these principles. A topical analysis of contracts; negotiable paper; agency; partnership; corporations; guaranty; sale of chattels; stoppage in transitu; payment; law of tender; liens; bailment; insurance; probate matters and real estate conveyances. Open to seniors, secretary, and college students only.

10. Money and Banking. Three hours per week second semester. A theoretical and practical study of the history of money; nature and uses of money; classification of banks; bank circulation; deposits and loans; officers of banks; collections; reserves; legal regulations; clearing houses; loan and trust companies. Open to seniors, secretary, and college students only.

11. Business Affairs. Junior and Senior college elective in economics. Two periods per week second semester. A practical and theoretical course involving a consideration of the relations between business, society and government; the work of improvement organizations, commercial clubs, boards of trade, booster clubs, etc. Business and public policies. Services rendered by public and semi-public institutitions; banks; trust companies; transportation corporations; gas, electric light, and water power companies; telephone and telegraph; and other vital factors in a "live" community. Relations between advertising and commercial progress. Lectures supplemented with reading.

Note—On account of the character of the work of this department, it is quite essential that students report for work at the beginning of each semester. Students arriving late often find it difficult to make up back work under a tutor in order to complete the required amount of study during the year.

Preparatory Department

PROFESSOR FORSEE, MISS YOUNG, MISS HYDE

The Preparatory Course is prerequisite to all courses leading to a degree and is the equivalent of the four year high school course for city schools as adopted by the High School Committee.

The work is arranged so that the student can follow one of three groups, called for convenience, groups A, B and C. Certain subjects that are considered necessary to a liberal education are common to the three groups. The remaining work is to be selected by the student from one of the three groups according to the line of study he wishes to pursue.

Group A is suited to those who wish to pursue work in the natural sciences.

Group B is intended for those who desire training in shorthand, typewriting and business methods together with a general education. The commercial department, in which these special subjects are taught, occupies commodious quarters, and is supplied with folding desks, typewriters, and offices for carrying on business transactions, such as banking and mercantile work. The subjects of this group are arranged so that students who have had the necessary training along other lines may complete a course in business practice or shorthand subjects in one year.

Group C includes Latin instead of the natural sciences or business subjects of the other two groups, and is intended for those who expect to follow literary or classical lines.

Since this scheme of study has only recently been adopted, it will not go into effect until the fall of 1911.

The students of this department are under the supervision of an experienced member of the faculty, who superintends their work and strives to secure the forming of correct habits of life on the part of all.

Students will be admitted to this department upon completion of the eighth grade work in the public schools.

The Franklin Literary Society is composed of preparatory students and short course students of equal rank. This work is also under the supervision of the Principal of the department.

The following subjects are offered in this department:

ENGLISH.

1. Composition. Five recitations a week, first semester. Choice of words, meaning of words, preferred usage according to best authorities. Text to be announced.

2. Composition. Five recitations a week, second semester; prerequisite, English 1. Kinds of composition; study of description; paragraphing; narration; clearness; letter writing; choice of words; exposition and argument. Text to be announced.

3. Composition and Rhetoric. Five recitations a week, first semester. This work affords the student practice in composition, an introductory knowledge of the principles of rhetoric and an acquaintance with certain masterpieces of English literature. Herrick and Damon's Composition and Rhetoric for Schools is used as a textbook. Of the selected classics some are used for rapid reading, others for careful study in class.

4. Composition and Rhetoric. Five recitations a week, second semester. A continuation of English 3.

5. American Literature and Classics. Five recitations a week, first semester.

6. American Literature and Classics. Five recitations a week, second semester.

7. English Literature and Classics. Five recitations a week, first semester.

8. English Literature and Classics. Five recitations a week, second semester.

LIBRARY.

With a view to facilitating the student's use of the library the following courses are given:

1. Library. One recitation a week, first semester. The use of indexes, dictionaries, encyclopedias; the card catalog; the classification; the leading periodicals.

2. Library. One recitation a week, second semester. Periodical indexes; brief bibliographies on assigned subjects; special reference works; the leading publishers; publications of the U. S. Government.

LATIN.

1. Latin. Five recitations a week, first semester. Primary principles of the language, including inflection and syntax with special attention to etymology, showing the relation of Latin stems to English words. Text: Bellum Helveticum.

2. Latin. Five recitations a week, second semester. Continuation of Latin 1. Bellum Helveticum completed.

3. Latin. Five recitations a week, first semester. Ceasar, Books I, II and III.

4. Latin. Five recitations a week, second semester. Caesar, Book IV; Cicero's Orations against Cataline, I and II.

5. Latin. Four recitations a week, first semester. Cicero, Orations against Cataline, III and IV; Poet Archias.

6. Latin. Four recitations a week, second semester; Latin 5 continued. Virgil, Books I and II, with special attention to scansion, rhetorical figures, and mythological references.

7. Latin. Four recitations a week, first semester. Virgil, Books III, IV and V.

8. Latin. Four recitations a week, second semester; Latin 7 continued. Virgil, Books VI; Livy.

HISTORY.

1. U. S. History. Five recitations a week, first semester; prerequisite, a knowledge of the history of the United States to the Colonial Period. A study of the conditions during the Colonial Period; Revolutionary War and War of 1812; industrial development of our country; the long struggle with slavery; the indestructibility of the Union; the economic struggle; the growth of the Northwest. Text to be announced.

2. Civics. Five recitations a week, second semester. General principles of government; branches of government; a close study of the constitution; comparison between the principles of the national government and those of our own state; principles of law; contracts in general. Text to be announced.

3. Greek History. Three recitations a week, first semester; History of Greece with brief preliminary survey of oriental history. The history of Greece and Rome is regarded as a study of the evolution of Greek and Roman institutions. Events are considered in their bearing on that evolution. A text-book is used, supplemented by other material. Text: West's Ancient World.

4. Roman History. Three recitations a week, second semester, History of Rome with special emphasis upon the institutions of the empire. The work of this course includes the period of transition to the year 800 A. D. Text: West's Ancient World.

5. English History. Three recitations a week, first semester. History of England to 1485. Emphasis upon constitutional points, and upon those institutions from which our own are derived. Textbook, lectures, papers and reports. Text: Cheyney's Short History of England.

6. English Hisory. Three recitations a week, second semester. Continuation of History 5. The Tudors and the Reformation; the

Stuarts and Parliament; England under Parliamentary rule; the era of reform; democracy and empire. Text: Cheyney's Short History of England.

MATHEMATICS.

1. Arithmetic. Five recitations a week, first semester; prerequisite, a general knowledge of Arithmetic. All the principles of percentage; involution; evolution; mensuration and the entire metric system. Text; Southworth-Stone's Arithmetic, Part 3.

2. Algebra. Five recitations a week, second semester. Beginning with the fundamental notions. Text: Milne's Academic Algebra.

3. Algebra. Five recitations a week, first semester. Continuation of Mathematics 2.

4. Algebra. Five recitations a week, second semester. Continuation of Mathematics 3. A general review of quadratics, the progressions, ratio and proportion, logarithms and such other important topics as the time will permit of taking up.

5. Plane Geometry. Four recitations a week, first semester; prerequisite, Mathematics 2. Beginning the subject. Test: Sanders' Plane and Solid Geometry.

6. Plane Geometry. Four recitations a week, second semester; prerequisite, Mathematics 3 and 5. Plane Geometry completed.

PHYSICS.

1. Elementary Physics. Three recitations and two laboratory periods a week, first semester; prerequisite, Mathematics 2. Properties of matter, mechanics of solids, and mechanics of fluids; nature of light, intensity, velocity and reflection of light; laboratory work showing principal phenomena and proving laws governing them in properties of matter, mechanics of solids and mechanics of fluids; velocity of sound, color and reflection of light. Text: Carhart and Chute's High School Physics; Chute's Practical Physics—Laboratory Manual.

2. Elementary Physics. Three recitations and two laboratory periods a week, second semester; prerequisite, Physics 1. Refraction of light, heat, electricity and magnetism; laboratory work in heat, colorimetery, refraction of light, magnetism, static electricity, detection of electric current and its direction, induced currents and measurements of electrical resistances. Texts: Carhart and Chute's High School Physics; Chute's Practical Physics—Laboratory Manual.

MECHANICAL ENGINEERING.

1. Carpentry and Wood Turning. Five laboratory periods a week, first semester. Talks on the care and use of different tools. Practice at the bench in making the various joints used in wood construction.

2. Forging. Three laboratory periods a week, second semester.

Bending, drawing, up-setting, welding and forging iron; steel manipulation, including cold chisels, punches and lathe and planer tools, tempering and hardening.

Mechanical Drawing. Three laboratory periods a week, first and second semesters. Instrumental drawing, geometrical problems and parts of machines. This work is offered during the entire year, and at hours convenient to teachers and students.

ZOOLOGY.

1-2. Elememtary Physiology. Two recitation and laboratory periods a week, first and second semesters. This is offered in the second year of the preparatory course and is designed to meet the requirements for High School physiology. It includes an elementary study of the human body, its physiology, hygiene and sanitation. Text: Hough and Sedgwick's The Human Mechanism.

NATURE STUDY.

1-2. Elementary Biology. Three lectures and two laboratory periods a week, first and second semesters. An elementary course in biology; the first semester will be devoted to the study of animal life, while the second will deal with plant life.

PHYSIOGRAPHY.

1. Five recitations a week, second semester. The relation between the earth and the sun; rivers; weathering of soils, glaciers, their cause and action; land forms, their cause and influence on man; volcanoes, their causes and effects; the atmosphere and its importance; the ocean; life on land and sea; how the physical conditions of the earth affect the life of man. Text: Gilbert and Brigham's Introduction to Physical Geography.

ART.

1. Free Hand Drawing. Three laboratory periods a week, first semester. Elementary Course. Drawing from simple casts in charcoal, theory of perspective; drawing in pencil. This work is arranged to be of direct assistance to students in their several courses in the college.

2. Free Hand Drawing. Three laboratory periods a week, second semester. Charcoal drawing continued; clay modelling from casts and objects; sketching in pencil and pen and ink.

HOME ECONOMICS.

1. Handwork. Three laboratory periods a week, first semester. The work includes braiding, knotting, crocheting, knitting, weaving, etc.

2. General Cookery. Three laboratory periods a week, second semester. The work covers preparation of simple dishes with a

view to suitable methods and combinations in serving; it also includes the general care and management of kitchen and utensils.

PREPARATORY COURSE.

First Year.

First Semester—

Composition, a 5	English	1
Arithmetic (including Metric System), a 5	Mathematics	1
United States History, a 5	History	1
Military Tactics, 3		
Elective		
A Freehand Drawing, b 3	Art	1
~~B~~ Commercial Methods, a 3	Commerce	1
C ~~Elementary Latin, a 5~~	Latin	1

Second Semester—

Composition, a 5	English	2
Algebra, a 5	Mathematics	2
~~Civics, a~~ 5	History	2
Military Tactics 3		
Elective		
A Freehand Drawing, b 3	Art	2
B Commerce and Industry, a 3	Commerce	2
C Elementary Latin, a 5	Latin	2

Second Year.

First Semester—

Composition and Rhetoric, a 5	English	3
Algebra, a 5	Mathematics	3
Greek History, a 3	History	3
Military Tactics, 3		
Elective		
A { Bookkeeping, b 3	Commerce	3
Elementary Physiology, a & b 2	Zoology	1
B { Bookkeeping, b 3	Commerce	3
Typewriting, 5	Commerce	
C Caesar, a 5	Latin	3

Second Semester—

Composition and Rhetoric, a 5	English	4
Algebra, a 5	Mathematics	4
Roman History, a 3	History	4
Military Tactics, 3		
A { Bookkeeping, b 3	Commerce	4
Elementary Physiology, a & b 2	Zoology	2
B { Bookkeeping, b 3	Commerce	3
Typewriting, 5	Commerce	
C Caesar, a 5	Latin	4

Third Year.

First Semester—

American Literature and Classics, a 5	English	5
Plane Geometry, a 4	Mathematics	5
English History, a 3	History	5
Library, a 1	Library	1
Military Tactics, 3		
Elective		
A Carpentry and Wood Turning, b 5 or	Mechanical Engineering	1
Handwork, b 5	Home Economics	1
B Stenography, a 5	Commerce	5
C Cicero, a 5	Latin	5

Second Semester—

American Literature and Classics, a 5	English	6
Plane Geometry, a 4	Mathematics	6
English History, a 3	History	6
Library, a 1	Library	2
Military Tactics, 3		
Elective		
A Physiology, a 3 &	Physiology	1
Forging, b 3 or	Mechanical Engineering	2
General Cookery, b 5	Home Economics	2
B Stenography, a 5	Commerce	6
C Cicero, a 6	Latin	6

Fourth Year.

First Semester—

English Literature and Classics, a 5	English	7
Elementary Physics, a 3, b 2	Physics	1
Business Law, a 3	Commerce	9
Military Tactics, 3		
Elective		
A Elementary Biology, a 3, b 2	Entomology	1
B Elementary Biology, a 3, b 2	Entomology	1
C Virgil, a 5	Latin	7

Second Semester—

English Literature and Classics, a 5	English	8
Elementary Physics, a 3, b 2	Physics	2
Money and Banking, a 3	Commerce	10
Military Tactics, 3		
Elective		
A Elementary Biology, a 3, b 2	Entomology	2
B Elementary Biology, a 3, b 2	Entomology	2
C Virgil, a 5	Latin	8

School of Agriculture

DR. BRIGHAM, MISS FROMME, MISS KELLY

The School of Agriculture of South Dakota opened in November, 1908. During the five months of the first school year more than one hundred students were registered in the pioneer class. The average age of these students was twenty years.

About one-third of the students of the pioneer class have taken the second year's course and about eighty students were registered in the class entering in November, 1909.

The Annex to the Chemical Building of the State College, provides adequate lecture rooms, laboratory, kitchen and sewing room for the School of Agriculture.

The School of Agriculture has for its specific purpose the instruction and training of young people for the life and work of the farm and home, for the social life of the rural community and for American citizenship.

The farmers' boys and girls are often needed on the farms and in the homes to help the parents during the busy season of the year. They can usually be spared from such work during the winter season, and may well spend this time in study which will prepare them for practical, profitable farming and successful home management.

The aim of the instructors in the School of Agriculture is to search out, with the students, the underlying principles of the objects and operations of the farm and household and to teach their application in successful practice.

While the subjects of study consist primarily of those which relate to farming and household economy, they include also such as are essential to a regular high school course. English and mathematics receive due attention. History and civics help to prepare the student for citizenship. Drawing and music are not neglected. Chemistry, physics and biology (including botany, bacteriology, physiology and entomology) will be studied, especially in their relations to the farm and the home. The instruction is largely technical. The technical topics include studies in soil, plants and crops, domestic animals, food, feeds and feeding, cooking, sewing, laundering, farm and home management, records and accounts, carpentry and blacksmithing. Text-books are used when these aids best answer the purpose. Lectures are given in the subjects which can be most efficiently taught in this way. Free use is made of object lessons. Demonstrations are given in the class rooms, laboratories, kitchen and sewing rooms, barns, greenhouses, gardens, orchards and fields. Laboratory practice is given as far as the facilities permit.

The School of Agriculture welcomes earnest and worthy young men and women from all parts of the state who have passed the eighth grade in the public schools and are willing to work in such a course of mental and manual training as will prepare them for life's labors, on the farms and in the homes of South Dakota.

The tuition is three dollars a term, or six dollars for the year, with a small fee for each laboratory in which work is taken.

THE SCHOOL YEAR.

The season of schooling continues during the colder months of the year. The first term begins about November first and continues until Christmas time; the second term opens immediately after the Christmas recess and continues until about the first of April (See Calendar, page 3).

The students of the School of Agriculture, after five months of study and training, will return to their homes for seven months and apply in practice the principles and methods which they have studied.

COURSES OF STUDY.

Following are the schedules of the courses of study. The academic studies are practically the same for men and women. The courses are differentiated only in such points as are related to their specific spheres in life's work:

THREE YEAR COURSE FOR MEN.

Note—The small letters and numbers after the names of subjects indicate the character of the work and the number of times a week, "a," meaning class work, "b," laboratory work.

First Year.

First Term—

English	a 4
Mathematics	a 4
Agronomy	a 1
Chemistry (Elementary)	b 2
Biology (Agricultural Botany)	b 2
Mechanical Drawing	b 2
Poultry Culture	a 1, b 1
Farm Crops	b 2
Live Stock Judging	a 2
Dairy Husbandry	a 2, b 1
Agricultural Bacteriology	a 1, b 1
Blacksmithing	b 3
Music (vocal)	5
Military Drill	3

Second Term—

English	a 4
Mathematics	a 4
Chemistry (Inorganic)	b 2
Biology (Agricultural Botany)	b 2
Mechanical Drawing and Building Plans	b 2
Poultry Culture	a 1, b 1
Farm Crops	a 1, b 1
Live Stock Judging	a 2
Dairy Husbandry	a 2, b 1
Horticulture (Gardening)	b 1
Agricultural Bacteriology	a 1, b 1
Carpentry	b 2
Military Drill	3

Second Year.

First Term—

English	a 4
Music	5
Algebra	a 4
Farm Accounts and Records	a 1
Chemistry (Organic)	a 3
Biology (Animal Life)	a 3
Agricultural Physics	b 2
Drawing (Free Hand)	b 2
Soil Formation and Management	a 1, b 1
Live Stock Judging	a 3, b 1
Horticulture (Fruit Growing)	a 1, b 1
Farm Machinery	b 2
Music	5

Military Drill	3

Second Term—

English	a 4
Algebra	a 4
Farm Accounts and Records	a 1
Biology (Animal Life)	a 3
Drawing (Free Hand)	b 2
Agricultural Physics	b 2
Soil Formation and Management	a 1, b 1
Breeds of Live Stock	a 3
Live Stock Breeding	a 2
Horticulture (Fruit Growing)	a 1, b 1
Farm Machinery	b 2
Music	5
Military Drill	3

Third Year.

First Term—

English	a 4
Geometry	a 4
Biology (Human Life)	a 2
Drawing	b 2
History and Civics	a 4
Land Management	a 2
Live Stock Feeding	a 4
Dressing and Curing Meats	b 1
Forestry	a 1
Veterinary Science (Prevention of Animal Diseases)	a 2
Farm Manufacturing	b 2
Music	5
Military Drill	3
Theme (Selection of Subject and Synopsis)	1

Second Term—

English	a 4
Geometry	a 4
Biology (Human Life)	a 2
Drawing	b 2
Land Management	a 2
Live Stock Feeding	a 4
Advanced Live Stock Judging	b 4
Agricultural Organization and Co-operation	a 1
Forestry	a 1
Veterinary Science (Prevention of Animal Diseases)	a 2
Farm Manufacturing	a 1, b 1
Agricultural Storage, Transportation and Marketing	a 1

Music	5
Military Drill	3
Theme (To be presented before March 1)	3

THREE YEAR COURSE FOR WOMEN.

First Year.

First Term—

English	a 4
Mathematics	a 4
Agronomy	a 1
Chemistry (Elementary)	b 2
Biology (Agricultural Botany)	b 2
Mechanical Drawing	b 2
Poultry Culture	a 1, b 1
Dairying	b 1
Bacteriology	a 1, b 1
Cooking (Elementary) (3 hour b periods)	a 1, b 2
Sewing (Elementary) (3 hour periods)	b 2
Music (vocal)	5
Physical Culture	2

Second Term—

English	a 4
Mathematics	a 4
Agronomy	a 1
Chemistry (Inorganic)	b 2
Biology (Agricultural Botany)	b 2
Mechanical Drawing and Home Architecture	b 2
Poultry Culture	a 1, b 1
Horticulture (Floriculture and Home Gardening)	b 1
Bacteriology	a 1, b 1
Cooking and Serving (3 hour periods)	b 2
Sewing (3 hour periods)	b 2
Music (vocal)	5
Physical Culture	2

Second Year.

First Term—

English	a 4
Algebra	a 4
Household Accounts and Records	a 1
Chemistry (Organic)	a 3
Biology (Animal Life)	b 2
Physics	b 2
Drawing (Free Hand)	b 2
Household Management	a 2
Household Science	a 1, b 1

Sanitation	a 1
Textiles and Sewing	a 1, b 2
Music	5
Physical Culture	2

Second Term—

English	a 4
Algebra	a 4
Biology (Human Life)	a 1
Drawing (Free Hand and Designing)	b 2
Household Accounts and Records	a 1
Physics	b 2
Household Chemistry	b 1
Laundering	b 1
Household Science, (Marketing, Planning Menues, Serving, Table Decoration)	a 1, b 1
Sanitation	a 1
Dietetics	b 1
Sewing (Making Woolen Dresses) (3 hour periods)	b 1
Tailoring	b 2
Clay Modeling, Wood Carving	b 1
Music	5
Physical Culture	2

Third Year.

First Term—

English	a 4
Geometry	a 4
Biology (Human Life)	a 2
Drawing	b 2
History and Civics	a 4
Household Sanitation and Plumbing	a 2
Household Science	a 1, b 1
Dressing and Curing Meats	b 1
Home Decoration	b 1
Millinery	b 1
Clay Modeling, Wood Carving	b 1
Physical Culture	2
Theme (Selection and Synopsis)	1

Second Term—

English	a 4
Geometry	a 4
Biology (Human Life)	a 2
Drawing	b 2
Agricultural and Domestic Organization and Co-operation	a 1
Invalid Cookery (3 hour period)	b 2

Home Nursing and Emergencies	b	2
Care and Feeding of Children	a	1
Designing and Making Graduation Dresses	b	2
Leather Tooling	b	1
Music		5
Physical Culture		2
Theme (To be presented before March 1)		1

SHORT INDUSTRIAL COURSES

Special work is offered in the various industrial departments for the benefit of those who can not avail themselves of the opportunities offered in the longer courses. These short courses are becoming a very attractive and profitable feature in the lives of many who can get away from their homes only at the time of the year when the work is offered, and persons of all ages, young and old, are found working side by side in these classes, to improve the conditions of their lives in the home and on the farm. A special effort is put forth to make the work interesting and specialists from other institutions are often engaged to assist in the instruction.

Since much of this work is adapted to the needs of the persons enrolled for it, the courses cannot be very fully described here. For a more detailed description of any particular work, address inquiries to the department concerned or to the President of the College.

The different courses are mentioned below:

The Two Weeks Course in Agriculture

January 2 to January 12

This course will consist of lectures on judging live stock, stock breeding, stock feeding, corn judging, grading and cleaning grain, poultry management and kindred subjects.

The Three Months Creamery Course

January 2 to March 22

This course is especially designed for young men wishing to fit themselves for various positions connected with the creamery industry such as helpers, buttermakers, managers, inspectors, etc.

Prospective students are urged to get at least six months of practical experience in some creamery before attending college, as by this means it is found that much greater benefit is derived from the work at the school.

The more general application of scientific principles to the manufacturing industries as well as the increasing competition on all sides demand a more thorough training in scientific and business methods than heretofore. This is no less true with regard to the creamery industry, and while the practical work of the school is by no means neglected special pains are taken to teach the underlying principles and the "reason why" for many of our daily operations.

The increasing interest in dairying in South Dakota and the consequent multiplication of creameries are creating a demand for men well trained along dairy lines, and applications for such are constantly being received at salaries varying from $50 to $125 per month. Worthy students may count on the co-operation of the dairy department in helping them to secure positions at the close of their college work.

The following work is offered:

Factory buttermaking and creamery management.

Testing milk and its products.

Dairy bacteriology.

Dairy arithmetic and bookkeeping.

Breeding, feeding and management of dairy cattle.

Agronomy.

Veterinary Medicine.

Creamery Mechanics.

A certificate of standing will be issued to all students passing satisfactory examinations on the above subjects.

A diploma will also be issued to students holding certificates of standing after satisfactorily demonstrating their ability to successfully operate a creamery for one year.

Short Course in Steam Engineering

January 2 to June 7

Modern agricultural methods have introduced in such a marked degree the steam engine as a substitute for animal power that the consequent growing demand for steam engineers has led the College to arrange a two-term course of study for the special training of steam (especially traction) engineers. Extreme care has been taken to offer only such work as shall prove valuable to the man running the traction engine, or other machinery. A relatively large amount of shop work, engine repairing and engine running is introduced, with a proper proportion of recitations in closely allied subjects. Upon the satisfactory completion of this work the student is given a certificate which is virtually the same as a license in the state to run an engine.

Students who desire to take this course are expected to pass satisfactory examinations in arithmetic as far as the preparatory class carries that subject in the fall; also to read intelligently and show such general elementary training as shall indicate that they are able to understand the subjects embraced in the engineering course.

The winter term begins January 2, and the spring term April 2. The work is as follows:

WINTER TERM.

Arithmetic	a 5
Physics of Steam	a 5
Civil Government	a 5
Forging	b 3
Mechanical Drawing	b 2

SPRING TERM.

Algebra	a 5
Steam Engine Lectures	a 5
Elementary Physics	a 5
Forging	b 2
Mechanical Drawing	b 3
Engine Practice	b 5

Student Organizations

BOARD OF CONTROL, STUDENT ASSOCIATION.

William Sauder	President
Lewis Vercoe	Secretary

INDUSTRIAL COLLEGIAN.

Jay T. Cottingham	Editor-in-Chief
Ben H. Schaphorst	Business Manager

ADVISORY COUNCIL, ATHLETIC ASSOCIATION.

Percy Huntemer	Chairman
J. M. Saunderson	Member of Council
I. J. Bibby	Member of Council

ADVISORY COUNCIL, ORATORY AND DEBATING.

Richard Fridley	Chairman
Lewis Vercoe	Member of Council

BAND.

Francis J. Haynes	Leader

YOUNG MEN'S CHRISTIAN ASSOCIATION.

Henry Erdmann	President
Edward Binnewies	Secretary

YOUNG WOMEN'S CHRISTIAN ASSOCIATION.

Grace Revell	President
Mildred Kline	Secretary

ATHENIAN LITERARY SOCIETY.

Lewis Vercoe	President
Agnes Heiser	Secretary

MILTONIAN LITERARY SOCIETY.

Florence Plocker	President
Sarah Johnston	Secretary

FRANKLIN LITERARY SOCIETY.

Eddie Lynch	President
Effie Bixler	Secretary

ART CLUB.

Neva Knutson	President
Orland White	Secretary

ENGINEERING SOCIETY.

V. E. Welker	President
Harold Hallen	Secretary

LADIES' GLEE CLUB.

Edmund S. Ender	Conductor

COLLEGE GLEE CLUB.

Edmund S. Ender	Conductor

AGRICULTURE CLUB.

John Larson	President
Perry Clifford	Secretary

Battalion Roster

FIELD AND STAFF.

Majors	John H. Balmat Clifford Johnson
Adjutant	Lewis Vercoe
Quartermaster	Clarence Shanley

NON-COMMISSIONED STAFF.

Sergeant Major	Glenn Cole
Color Sergeant	Roy Serles
Chief Trumpeter	Eugene Kelly

COMPANY "A"

Captain	Henry Erdmann
1st Lieutenant	Henry Shea
2nd Lieutenant	Sam Sloan
1st Sergeant	James Lockhart
Q. M. Sergeant	Morris Greenley
Sergeant	Ross Jensen
Sergeant	Harry Sanderson
Sergeant	Heyme Vis
Sergeant	Alex Culhane
Corporal	Guy Mayland
Corporal	Arthur Allison
Corporal	Will Chappell
Corporal	Roy Evans
Musician	William Joseph
Musician	Frank Lawler

COMPANY "B"

Captain	Paul Granger
1st Lieutenant	Ralph Kremer
2nd Lieutenant	Lloyd Hyde
1st Sergeant	Richard Morton
Q. M. Sergeant	Ernest Anderson
Sergeant	Jay Houghton

Sergeant	Roger Culhane
Sergeant	Everett Dunn
Sergeant	Walter Wornson
Corporal	Richard Chappell
Corporal	Ben Habeger
Corporal	Alfred Bushey
Corporal	Arno Britzius
Musician	Eugene Kelly
Musician	Arthur Quinn

COLLEGE ALUMNI

Note—The married names are in parentheses.

ALUMNI ASSOCIATION.

Harry A. Williams, '05	President
Harvey Jensen, '07	First Vice President
Freda Morrison, '00	Second Vice President
Albert A. Ort, '10	Third Vice President
H. B. Mathews, '92	Secretary and Treasurer

Class of 1886.
BACHELOR OF SCIENCE.

Sayler, Marcus A.,	Fruit Grower, Orland, Cal.

Class of 1888.
BACHELOR OF SCIENCE.

Aldrich, John M.,	Prof. Biology, U. of Idaho, Moscow, Idaho
Lawrence, Philip A.	Attorney, Fargo, N. D.
Wellman, Lulah (Hewes)	Mayville, N. Y.

Class of 1889.
BACHELOR OF SCIENCE.

Boswell, Katie (Arnold)	Estelline
Cranston, Mary (Crane)	Spokane, Wash.
Cross, Alvah G.	
Eno, Durell G	Farmer, Platte
Grady, Francis A.	Attorney, Crookston, Minn.
Haber, Sarah (Cunningham)	Spokane, Wash.
Korstad, Hans	Farmer, Brookings
Larson, Lars K.	Bank Cashier, Dell Rapids
Lawshe, Grace (Brooke)	Preceptress, Valley City, N. D.
McKenney, Duston W.,	Manual Training, Billings, Mont.
McLouth, Lewis C.	Gen. Mgr. Miniature Sales Co., Detroit, Mich.
Mork, Albert A.	Farmer, Des Lacs, N. D.
Roe, Ellen (Aldrich)	Died Dec. 8th, 1897, at Helena, Mont.
Ross, Carrie (Orcutt)	Northfield, Minn.
Ross, Abbie (Wesche)	Webb, Ia.
Wardall, Anna Scott	Osteopath, Seattle, Wash.

Class of 1890.
BACHELOR OF SCIENCE.

Allen, William C.	Died in Chicago
Day, John M.	Farmer, Mellette

Duffey, Maggie (Irish) .... St. Louis, Mo.
Egeburg, Hildus .... Farmer, Brookings
Haasarud, Ole H. .... Farmer, Bratsburg, Minn.
Harkins, Lilla A., Prof. of Dom. Science, Montana Agricultural College, Bozeman.
Hopkins, Cyril G., Prof. of Agronomy, Chemist, and Vice Director of Experiment Station, U. of Illinois, Champaign.
Jenkins, John C. .... Attorney, Portland, Oregon
Kenyon, Arthur H. .... Lawyer, Spokane, Wash.
Pyne, Estel W. .... Piano Dealer, Los Angeles, Cal.
Roe, Guy W. .... State Mgr. Union Fibre Co., Yorktown, Ind.
Stoner, Minnie A. .... Lecturer, Woonsocket
Wardall, Norman M. .... Dep'ty County Auditor, Seattle, Wash.

Class of 1891.

MASTER OF SCIENCE.

Aldrich, John M. ...... Prof. Biology, U. of Idaho, Moscow, Idaho

BACHELOR OF SCIENCE.

Aldrich, Irwin D. .... Editor, Big Stone
Bell, William D. .... Editor, St. James, Minn.
Bentley, Wm. S. .... Physician, Hot Springs
Chamberlain, Jennie (Spooner) .... Physician, Detroit, Mich.
Crane, Austin B. .... Civil Eng., Spokane, Wash.
Davis, Homer .... Physician, Geneva, Neb.
Dillon, Willis C. ....
Doughty, Hettie (Dibble) .... Clark
Frick, Mary (Magan) .... Rochester, Minn.
Hann, Jay B. .... Photographer, Bellingham, Wash.
Houston, Grant .... Physician, Joliet, Ill.
Irish, Henry C. .... Supt. Botanical Gardens, St. Louis, Mo.
Lewis, Perry .... Inventor, Mankato, Minn.
Robinson, Alice (Haberlein) .... Mexico City, Mex.
Shannon, Fanny (Fourt) .... Fairfield, Iowa
Solberg, Halvor C. ...... Prof. Steam and Mechanical Eng., S. D. S. C.
Updyke, Nora (Bacon) .... Pueblo, Col.
Valleau, Vinal B. .... Real Estate, Aberdeen
West, Hugh H. .... Physician, Elgin, Ill.
Wolgemuth, Lee E. .... Real Estate, Hamilton, Mont.

Class of 1892.

BACHELOR OF SCIENCE.

Austin, Steven E. .... Mechanical Engineer, Chicago
Davis, Samuel H. .... Farmer, Beaverton, Ore.
Griffiths, David, Ass't. Agrostologist, Agr. Dep't., Tacoma Park, Wash.

Hamlin, John R., Jr. .... Fruit Grower, Los Angeles, Cal.
Harding, Albert S. .... Prof. of History & Political Science, S. D. S. C.
Hatfield, Ira H. .... Attorney, Lincoln, Neb.
Keeney, Emma A. .... Physician, Silver Lake, Ore.
Madden, Marguerite (Akin) .... Brookings
Mathews, Hubert B. .... Prof. of Physics, S. D. S. C.
McAndrew, James E. .... Lawyer, Spokane, Wash.
McLouth, Ida B. .... Died, Aug. 27, 1899, at Short Beach, Conn.
Plocker, Eva (Mathews) .... Brookings
Schlosser, Thomas F. .... Clergyman, Garfield, Wash.
Sloan, Nettie (Torrence) .... Redlands, Cal.
Snell, Effie (Clark) .... Memphis, Neb.
Whitten, John C. .... Prof. of Hort., U. of Missouri, Columbia
Winegar, Albert J. .... Life Insurance, Beloit, Wis.

Class of 1893.

MASTER OF SCIENCE.

Griffiths, David, Ass't Agrostologist, Dep't. of Agriculture, Washington, D. C.

BACHELOR OF SCIENCE.

Bates, Edmund T. .... Farmer, Onslow, Iowa
Beck, Milton ...... Chief Engineer, Alamo Mf'g. Co., Hillsdale, Mich.
Edgerton, Wm. M. .... Physician, Faulkton
McLouth, Benjamin F. .... Ins. Agent, Los Angeles, Cal.
Robertson, Ada N. .... Teacher, West Helena, Mont.
Robertson, Clarence H., Science Teacher and Y. M. C. A. Sec. for China, Shanghai, China.
Schoppe, W. J. A. .... Farmer, Groton, S. D.

Class of 1894.

MASTER OF SCIENCE.

Plocker, Eva (Mathews) .... Brookings
Wolgemuth, Lee E .... Real Estate, Hamilton, Mont.

BACHELOR OF SCIENCE.

Brown, Cyrus O. .... Attorney, Burwell, Neb.
Brown, James A. .... Attorney, Lincoln, Neb.
Dibble, Hattie (Lunde) .... Castlewood
Hopkins, Mrs. C. G. .... Champaign, Ill.
Luke, Fred K. .... Farmer, Kalispell, Mont.
Parker, Fannie (Spooner) .... Brookings
Sproul, Alex H., Head of Com'l. Dep't., Shortridge High School, Indianapolis, Ind.
Tanzy, Marvin F. .... Died Feb. 8, 1900, at Canton,S. D.
Waters, Geo. D. .... Accountant, Chandler, Okl.

Williams, Elinor (Knox) .... Higley, Arizona
Young, Gilbert A., Assoc. Prof. of Mech. Eng., Purdue Univ., Lafayette, Ind.

Class of 1895.

MASTER OF SCIENCE.

McKenney, Dustin W. .... Manual Training, Billings, Mont.
Schoppe, W J. A. .... Farmer, Groton
Sproul, Alex H., Head of Com'l. Dep't., Shortridge High School, Indianapolis, Ind.

BACHELOR OF SCIENCE.

Allison, Wm. F., Prof. Civil Eng., Colorado School of Mines, Golden, Col.
Brown, Sara .... Teacher, Sherman City, Ia.
Cornell, Harry M. .... Real Estate, Mott, N .D.
Mayland, Mable (Merrick) .... Troy, Kan.
Parker, Anna (Moore) .... Brookings
Salisbury, Edith (Robertson) .... Shanghai, China
Sevy, Isaac B. .... Teacher, Milton, Oregon
Sproul, Wm. T., Sec. & Treas., Ingersoll Milling Machine Co., Rockford, Ill.
Thornber, John J .... Prof. of Botany, U. of Arizona, Tucson
Wilcox, Ernest N. .... Farmer, Thawville, Ill.

PHARMACY GRADUATES.

Briggs, Elmer E. .... Farmer, Muscoda, Wis.
Knox, Wm. H. .... Farmer, Higley, Arizona
Lentz, Elmer A .... Dentist, Brookings
Murphy, Wm. .... Died July 5, 1896, at Brookings
Whitehead, B. T. .... Prof. Pharmacy, S. D. S. C.

Class of 1896.

MASTER OF SCIENCE.

Brown, James A. .... Attorney, Lincoln, Neb.
Luke, Fred K. .... Farmer, Kalispell, Mont.
Robertson, Ada N. .... Teacher, West Helena, Mont.
Snell, Effie (Clark) .... Memphis, Neb.
Wilcox, Ernest N. .... Farmer, Thawville, Ill.

BACHELOR OF SCIENCE.

Atkinson, Jesse C. .... Civil Engineer, Park Ridge, Ill.
Carter, Louis W. .... Post Master, Highmore
Dibble, Ida (Brown) .... Lincoln, Neb.
Downing, Jennie C. .... Mgr. Telephone Co., Rathdrum, Idaho
Grattan, Paul H. .... Hardware Merchant, Jackson, Minn.

Hegeman, Harry A.,	First Lieutenant 19th Infantry, U. S. A., Ft. MacKenzie, Wyo.
Holm, Andrew B.	Accountant, Brookings
Hoy, Howard H.	Ass't in Phys. and El. Eng., S. D. S. C.
Korstad, Mary	Brookings
Lusk, Willard C.	Editor, Yankton
Mathews, Nora (Hoy)	Brookings
Mathews, Alta (Smith)	Indian Springs, Nevada
Sasse, Ernest G.	Physician, Bridger, Mont.
Williamson, Albert	Editor, Kennebec

PHARMACY GRADUATES.

Cotter, J. C.	Merchant, Dell Rapids
Grove, Eugene	Physician, Badger, S. D.
Moore, Thomas	Druggist, Waterloo, Ia.
Palmer, Horton	Druggist, White
Sherwin, Frank	Merchant, Willamina, Ore.

Class of 1897.

MASTER OF SCIENCE.

Davis, Homer	Physician, Genoa, Neb.

BACHELOR OF SCIENCE.

Ainsworth, Cephas B.	Farmer, Kendall, Mont.
Atkinson, Geo.	Farmer, Aldred, Saskatchewan, Canada
Atkinson, Walter	Civil Engineer, Peotone, Ill.
Boyden, Frank E.	Physician and Surgeon, Heppner, Ore.
Clevenger, John W.	Dentist, Chamberlain
Hargis, Christie (Saylor)	Des Moines, Iowa
Hazel, Wm. A.	Lawyer, Aberdeen
Husted, Harley H.	Died Jan. 14th, 1907, at Lincoln, Neb.
Jolley, Wm. G.	Principal of Schools, Park Place, Ore.
Madden, Cassie (Crowley)	Dickinson, N. D.
Olson, Eva	Teacher, St. Paul, Minn.
Parsons, Thomas S.	Prof. of Agro. U. of Wyo., Laramie, Wyo.
Roe, Robert	Stockman, Highmore
Shuster, John W.	Ass't. Prof. Elec. Eng., U. of Wisconsin, Madison
Thornber, Walter S.	Prof. Hort., State College, Pullman, Wash.
Walters, Wm. H.	Grain Buyer, Bruce
West, Orpha (Sevy)	Teacher, Milton, Ore.
Whaley, Neva (Harding)	Brookings
Whitehead, Bower T.	Prof. of Pharmacy, S. D. S. C.
Wilcox, Alice (Remsburg)	Thawville, Ill.
Work, Lloyd E.	Bond Salesman, Chicago, Ill.
Young, Grace (Bullen)	Portland, Ore.

Class of 1898.

MASTER OF SCIENCE.

Chilcott, E. C., Agronomist in charge of Dry Land Agriculture, Fairfax, Virginia.

Harkins Lilla A., Prof. Domestic Science, Montana Agr. College, Bozeman, Mont.

Parsons, Thomas S. .... Prof. of Agro., U. of Wyo., Laramie, Wyo.

BACHELOR OF SCIENCE.

Ainsworth, Howard .... Street Car Con., San Francisco, Cal.
Ainsworth, Flora (Hazel) .... Aberdeen
Barton, Alice (White) .... Santa Ana, Cal.
Beck, Louis .... Engineer, Norwood, Ohio
Bolles, Myrick N. .... Mining Engineer, Monterey, Mexico
Curtiss, Elsie (Crane) .... Pullman, Wash.
Davidson, Margaret (Crane) .... Kettle Falls, Wash.
Fjerestad, Hans C. .... Grocer, Sioux Falls
Harding, Charles J. .... Teacher, Brookings
Hegeman, Maude (Boyden) .... Heppner, Ore.
Hegeman, Mabel (Allison) .... Golden, Col.
Hodgeson, Herbert H. .... U. S. Geol. Survey, Wash., D. C.
Knox, Wm. H. .... Farmer, Higley, Arizona
Lawrence, Claude W. .... Farmer, Seguin, Ore.
Lawrence, Clay .... Lawyer, Seattle, Wash.
Loveland, Addie (Towne) .... Minneapolis, Minn.
Paddock, Jay M. .... Ins. Agent, Lake Preston
Riemann, Edith (Adams) .... Piermont, N. Y.
Thornber, Wm. T. .... Farmer, Dell Rapids
Towne, Judson R. .... Teacher, Minneapolis, Minn.

PHARMACY GRADUATES.

Beebe, Jay L. .... Physician, Anaheim, Cal.
Clevenger, J. W. .... Dentist, Chamberlain
Holsey, Joseph .... Druggist, Veblen
Lee, Berton .... Farmer, Stoneham, Cal.

Class of 1899.

MASTER OF SCIENCE.

Dibble, Hattie (Stow) .... Castlewood
Mathews, Hubert B. .... Prof. of Phys., S. D. S. C.
Thornber, Walter S...Prof. of Hort., Washington Ag'l College, Pullman
Whitten, John C....Professor of Horticulture, U. of Missouri, Columbia

BACHELOR OF SCIENCE.

Colegrove, Ina (Nelson) .... Cleveland, Ohio
Findeis, Phillip .... Lumber Merchant, Miranda

Lawrence, Mary M.,	Inst. in Dom. Sc., State Normal, Bellingham, Wash.
Lawrence, Wm. H.,	Pathologist of State Ex. Sta. and Supt. Western Ex. Sta., Puyallup, Wash.
Mason, Nellie (Mason)	Albia, Ia.
Nachtigal, Isaac	Farmer, South Shore
Sherwin, Howard H.	Civil Engineer, Yonkers, N. Y.
Walters, Edith (Fystrom)	Died in 1910 at Geneseo, N. D.
West, George	Physician, Armstrong, Ia.

PHARMACY GRADUATES.

Carr, George	Druggist, Bison
Crowley, D. C.	Druggist, Dickinson, N. D.
Hepner, Frank	Ass't. Chemist U. of Wyoming, Laramie
Kendall, Clint D.	Druggist, Brookings
Lindsey, Charles	Farmer, Winfred
Oulton, Frank	Real Estate, Faulkton
Shriver, E. M.	Druggist, Elkton
Taylor, C. DeWitt	Drug Clerk, Denver, Col

Class of 1900.

BACHELOR OF SCIENCE.

Allen, Hart M.	Druggist, Oakland, Cal.
Anderson, Clark W.	Died March 6th, 1902, at Brookings
Beebe, Jay L.	Physician, Anaheim, Cal.
Carlson, Esther	Teacher, St. Paul, Minn.
Carlson, Ella (Howard)	Lake Preston
Davies, Sara (Sherwin)	Yonkers, N. Y.
Davis Mary (Hutchins)	Fall City, Neb.
DeLa, John W.	Editor, Balfour, N. D.
Doughty, Matthew W.	Civil Engineer, Scranton, Pa.
Grove, Frank W.	Dentist, Delta, Col.
Harza, Carl	Electrician, Detroit, Mich.
Kendall, Clinton D.	Druggist, Brookings
Lawrence, Jessie	Teacher, Seguin, Wash.
Mathews, Alice (Albright)	Great Falls, Mont.
Mathews, Roscoe A.	Boston & Montana Smelter, Great Falls, Mont.
Morrison, Freda C.	Teacher, Rapid City
Olson, Gustava (Hodgeson)	Washington, D. C.
Williams, Callie (Olson)	Brookings

PHARMACY GRADUATES.

Bentley, Wm. S.	Physician, Hot Springs
Brosseau, Jesse E.	Physician, Frankfort
Baldwin, Corwin B.	Druggist, Rapid City
Connell, John C.	Druggist, Luverene
Else, Earl	Physician, Pullman, Wash.

Eckert, Henry	Died at Menno, S. D.
George, William	Physician, Selby
Hart, Bertrand	Physician, Blunt
Jones, Robert	Druggist, Madison
West, Hugh H.	Physician, Elgin, Ill.

Class of 1901.

MASTER OF SCIENCE.

Knox, Wm. H.	Farmer, Higley, Arizona
Whitehead, Bower T.	Professor of Pharmacy, S. D. S. C.

BACHELOR OF SCIENCE.

Bagley, Susie	Teacher, Zion City, Ill.
Bolles, Laura Jane	Teacher, Sisseton
Brosseau, Jesse E.	Physician, Frankfort
Boyd, Mary	Teacher, Brookings
Cranston, Margaret (Young)	Died June, 1907, at Oakes, N. D.
Culhane, Michael E.	Lawyer, Brookings
Davies, Autumn	Inst. in Hist., H. S., Omaha, Neb.
Dodge, Fred E.	Hotel Keeper, Redfield
Else, Earl	Physician, Pullman, Wash.
Enos, Winifred	Teacher, Brookings
Erickson, Martin L.	Forestry Service, Medford, Ore.
Evans, Lina (Roskie)	Brookings
Fishback, Myra (Kennedy)	Brooklyn, N. Y.
Harza, LeRoy F.	Civil Eng., Madison, Wis.
Hatton, Jno. H.	Forestry Service, San Francisco, Cal.
Johnson, Rhoda (Lee)	Died Oct. 18, 1909, Denver, Col.
Kendall, Leonard J.	Telegraph Operator, Brookings
Kennedy, C. LeRoy	Fruit Raiser, Mountain View, Cal.
Langdon, Lillian (Culhane)	Brookings
McElmurry, Loretta	Teacher, Brookings
Mork, Theodore	Farmer, Des Lacs, N. D.
Phillips, Florence	Teacher, Arlington
Phillips, C. Louise	Assistant Librarian, S. D. S. C.

PHARMACY GRADUATES.

Cornell, Edward	Drug Clerk, Huron
Tidball, Clyde	Druggist, Brookings

Class of 1902.

BACHELOR OF SCIENCE.

Fleming, Michael	With M. A. Hanna Coal Co., Duluth, Minn.
George, William A.	Physician, Selby
Hart, Bertrand M.	Physician, Blunt

Hepner, Frank E. .. Ass't Station Chemist, Univ. of Wyoming, Laramie
Johnson, Clara (Johnson) .... Brookings
Johnson, Edward .... Died, Tacoma, Wash.
Kephart, George .... Lawyer, Sioux City, Ia.
Lee, Berton E. .... Farmer, Stoneham, Col.
Ramsey, Henry J....... Bureau of Plant Industry, Washington, D. C.
Roskie, Geo. .... Abstracter, Brookings
Thornber, Edith (Cuckow) .... Brookings
Trooien, Ole N. ..... Contractor in Concrete Work, Minneapolis, Minn.
Winegar, Laura .... Bookkeeper, Brookings

PHARMACY GRADUATES.

Allison, Wm. F., Prof. of Civil Eng., Colorado School of Mines, Golden, Col.
Boyden, Frank E. .... Physician and Surgeon, Heppner, Ore.
Christianson, Bernett C. .... Druggist, Volga
Hayter, McPherson .... Druggist, Artesian
Jarrett, Arthur A. .... Druggist, Colman
Jarvis, S. Hall .... Druggist, Faulkton
Leighty, James A. .... Druggist, Winfred
Morton, Frederic M. .... Druggist, Sisseton
Pickles, Chester E. .... Farmer, Clark
Schnaidt, Henry .... Druggist, Parkston
Schroeder, Anna (Gassman) .... Howard
Thomas, John C. .... Druggist, Marion

Class of 1903.

MASTER OF SCIENCE.

Crane, Austin B. .... Civil Engineer, Spokane, Wash.
Hoy, Howard H. .... Ass't. in Phy. and El. Eng., S. D. S. C.

BACHELOR OF SCIENCE.

Almond, Fred C. .... Died March 12th, 1909, at Clear Lake
Cole, John S., Examiner of Dry Land Agr. Exp. Stations, Dept of Agr., Denver, Col.
Colegrove, Lettie (Drew) .... Brookings
Cuckow, Fred W. .... Lawyer, Brookings
Hubbart, Minnie (Holbein) .... Lansford, N. D.
Johnson, Isaac .... Lumberman, Brookings
Kendall, M. Krete .... Brookings
Langdon, Alice .... Stenographer, Brookings
Miller, Shirley P. .... Professor Zoology, S. D. S. C.
Norton, Frank A. .... Fruit Grower, Grand View, Wash.
Otterness, Jens M. .... Deputy State Food Insp., Vermillion
Peirce, E. Esther .... Teacher, Brookings

Sanborn, Ethel I.	Teacher, Date, S. D.
Sarvis, Roscoe J.	Elec. Engineer, Minneapolis, Minn.
Seide, Louise (Prell)	Calamus, Iowa
Webster, James L.	Minister, Morris, Ill.
Westcott, Geo. R.	Civil Engineer, St. Louis, Mo.

PHARMACY GRADUATES.

Drew, Arthur W.	Medical Student, North Western Univ., Chicago
Hall, Roy J.	Druggist, Oldham
Heston, Edward C.	Physician, Roslyn, Wash.
Hollister, Arthur R.	Druggist, Madison
Howell, John E.	Chemist S. P. R. R., Houston, Tex.
Johnston, Samuel	Druggist, Vienna
Norton, Frank A.	Fruit Grower, Grand View, Wash.
Steiner, Frederick W.	Physician, Havre de Grace, Md.
Trumm, Robert E.	Druggist, Hayti
Van Dusen, Fred J.	Merchant, Spearfish
Williams, Percy	Medical Student, Chicago, Ill.
Young, Alfred J.	

Class of 1904.

MASTER OF SCIENCE.

Trooien, Ole N.	Contractor in Concrete Work, Minneapolis, Minn.

BACHELOR OF SCIENCE.

Binford, Wm. W.	Lumberman, Caldwell, Idaho
Bushnell, Maude (Kelton)	Henry, S. D.
Loucks, Anna Y. (Brown)	Brookings
Mattice, Albert F.	Physician, Freibourg, Germany
McGarry, Lawrence R.	Bank Cashier, Mansfield
Ruth, Thomas H.	Veterinary Surgeon, De Smet
Sanderson, Everett G.	Farmer, Arapahoe, Col.
Sherwin, Ralph L.	Civil Engineer, Scranton ,Pa.
Smith, Wm. H.	Minister, Wilmot
Thompson, Clarence	Farmer, Dell Rapids
Walter, L. Erving	Manila, P. I.

PHARMACY GRADUATES.

Anderson, Ernest	Druggist, South Shore
Dillon, Cornelius	Druggist, Eugene, Ore.
Frick, Harry E.	Druggist, Wessington Springs
Goodale, Alton R.	Druggist, Aberdeen
Hooker, Henry	Physician, Danville, Ill.
Koch, Arthur E.	Student, Mich. U., Ann Arbor, Mich.
Ramsdell, Leonard C.	Druggist, Spokane, Wash.

Thompson, Gottfried	Farmer, Dell Rapids
Weisflock, Theodore	Druggist, Frankfort

Class of 1905.

MASTER OF SCIENCE.

Hepner, Frank E.	Ass't Station Chemist, U. of Wyoming, Laramie
Norton, Frank A.	Fruit Grower, Grand View, Wash.
Phillips, C. Louise	Ass't Librarian, S. D. S. C.
Thompson, Clarence	Farmer, Dell Rapids
Walter, L. Erving	Manila, P. I.

BACHELOR OF SCIENCE.

Boyden, Guy L.	Student of Medicine, Chicago, Ill.
Chappell, Bessie	Teacher, Sioux Falls
Davis, Clifford W.	Moscow, Idaho
Elliott, Roy K.	Electrician, Boston, Mass.
Fassett, Della (Loucks)	Watertown
Fishback, Van Dusen	Bank Clerk, Brookings
Forrest, Victor E.	Contractor, Tyndall
Fulkerson, Vincent	Special Agent, Dept. of Agr., Fallon, Nev.
Grove, Mary I.	Registrar, S. D. S. C.
Hage, Christian F.	Druggist, Toronto
Howg, Edwin M.	Physician, Sisseton
Jensen, Lewis N.	Farmer, Simpson, Col.
Johnson, Carl L.	Electrician, Schenectady, N. Y.
Mathews, Harry E.	Supt. Forest Reserve, Las Vegas, Nevada
Miller, Ralph L.	Lumberman, Melville, N. D.
Murphy, Matt W.	Lawyer, Fargo, N. D.
Nelson, John Harland	Prof. Structural Eng., Case School of Applied Sc., Cleveland, O.
Ronning, Oscar E.	Teacher, Hazel
Schaphorst, Wm. F.	Technical Engineer, N. Y. City, N. Y.
Seeger, Adolph M.	Elec. Engineer, Toledo, Ohio
Slocum, Ina S. (Deeley)	Vancouver, B. C.
Thogerson, Arthur A.	Contractor, Portland, Ore.
Walters, Daisy	Teacher, Bruce
Williams, Harry	Brookings
Williams, Percy	Medical Student, Chicago, Ill.
Wilson, Elsie (Chappell)	Brookings

PHARMACY GRADUATES.

Fjerestad, Carl	Druggist, Elkton
Howg, Edwin M.	Physician, Sisseton
Larson, Lars P.	Teacher, Howard
Mathews, Harry E.	Supt. Forest Reserve, Las Vegas, Nev.

McCurdy, Walter	Druggist, Lane
Morton, Grant J.	Federal Drug Inspector, Spokane, Wash.
Pottinger, Geo.	Drug Clerk, Dell Rapids
Thompson, Clarence	Farmer, Dell Rapids
Volin, Porter	Physician, Reliance

Class of 1906.

BACHELOR OF SCIENCE.

Aldrich, G. Malcolm	Prin. Calhoun Schools, Mpls., Minn.
Barrett, J. Wylie	Elec. Eng., Plankinton
Bonesteel, Bee (Dillman)	Newell
Burghardt, Roy D.	Electrician, Seattle, Wash.
Carpenter, Abbie J.	Dom. Sc. Teacher, Grand Rapids, Minn.
Chilcott, Ellery F.,	Supt. State Ex. Station, Garden City, Kan.
Coller, Fred A.	Student, Harvard University
Davies, Gladys (Grace)	Akron, Cal.
Erstad, Alfred J.	Electrician, Portland, Ore.
Evans, Edna V.	Student, Wis. U., Madison, Wis.
Grace, Oliver	Supt. Sub. Sta., Akron, Col.
Kennard, Frank L.	Sup't. Sub. Sta., Dalhart, Tex.
Knox, Arthur H.	Farmer, Alpena
Koch, Arthur E	Student, Mich. U., Ann Arbor, Mich.
Moffatt, Margaret E.	Teacher Brookings
Reich, Rose M.	Teacher Canastota
Thornber, Jessie B.	Brookings
Youngberg, Guy E.	Asst. in Chem., S. D. S. C.

PHARMACY GRADUATES.

Allison, Harold	Medical Student, Chicago, Ill.
Bergeim, Olaf	Student, Ills. U., Champaign, Ill.
Davies, Gladys (Grace)	Akron, Col.
Harben, Bartlett L.	Farmer, Hamill
Locke, Chas.	Drug Clerk, Andover
Wipf, Michael J.	Bank Clerk, Alsen, N. D.

Class of 1907.

MASTER OF SCIENCE.

Culhane, Michael E.	Lawyer, Brookings

BACHELOR OF SCIENCE.

Binnewies, Mabel E.	Teacher, Flandreau
Briggs, Stephen F.	Manufacturer, Milwaukee
Burch, Walter S.	Gen. Elec. Co., Schenectady, N. Y.
Christianson, Christine	Prin. Schools, Sunnyside, Wash.
Dillman, Arthur C.	Special Agent, Dept. of Agr., Newell, S. D.
Dutcher, R. Adams	Dairy Chemist, Mo. Univ., Columbia, Mo.

Elliott, Bruce A.	Manual Training Teacher, Lesueur, Minn.
Elliott, Ross W.	Asst. Engineering, Agr. College, Mesilla Park, N. M.
Fjerestad, Alman	Elec. Engineer, Estelline
Gagel, Gerald	Electrician, Redlands, Cal.
Hofstetter, Geo.	Instructor Manual Training, Govt, School, P. I.
Kirk, John R.	Farmer, Springfield
Johnson, Aaron G.	Ass't. Bot. Purdue Univ., Lafayette, Ind.
Knutson, Mabel (Trooien)	Minneapolis, Minn.
McCordic, Clare	Traveling Salesman, Groton
McElmurry, Rilla	Dietitian, Chicago, Ill.
Morton, Grant J.	Federal Drug Inspector, Spokane, Wash.
Reich, J. Carl	Western Elec. Co., Chicago, Ill.
Salmon, Cecil	Special Agent Dept. Agr., Newell
Sanderson, Eugene	Elec. Engineer, Syracuse, N. Y.
Tuttle, Volney J.	Gen. Elec. Co., Schenectady, N. Y.
Underwood, Genevieve	Teacher, Arlington
Westcott, Ruth M.	Inst. Music S. D. S. C., Brookings
Work, Mary L.	Teacher, Watertown

PHARMACY GRADUATES.

Dexter, David F.	Real Estate, Centerville
Roney, Ray W.	Druggist Chester
Ennis, Herbert I.	Druggist, Bruce
Kartrude, Inga M.	Teacher, Hardwick, Minn.

Class of 1908.

MASTER OF SCIENCE.

Coller, Fred A.	Student, Harvard University
Koch, Arthur E.	Student, Mich. Univ., Ann Arbor, Mich.

ELECTRICAL ENGINEER.

Elliott, Ross W.	Asst. Engineering, Agr. Coll., Mesilla Park, N. M.

BACHELOR OF SCIENCE.

Alton, Benjamin H.	Student, Harvard Univ., Mass.
Bergeim, Olaf	Student, Ills. U., Champaign, Ill.
Carpenter, Clarence A.	Elec. Engineer, Rapid City
Chilcott, Ralph A.	Farmer,Fairfax Courthouse, Va.
Cooley, William R.	Farmer, Tabor
Griffith, T. Edwin	Electrical Engineer, Hammond, Ind.
Holsey, Ernest	Electrical Engineer, Sioux Falls
Hubbart, Edith J.	Teacher, Lansford, N. D.
Hyde, Hallie W.	Instr. Dom. Sc., S. D. S. C.
Kelly, Amy	Instr. Dom. Sc., S. D. S. C.
Kendall, Nellie G.	Student, Evanston, Ill.

Locke, Francis J.	Electrical Engineer, Chicago, Ill.
Mathews, Oscar R.	Expert Dry Land Agr., Newell
Mayland, Amy	Died Feb. 17, 1909 at Lincoln, Neb.
Mayland, George R.	Automobile Engr., Brookings
Nelson, Aaron L.	Electrician, Schenectady, N. Y.
Nilsson, Edward	Student, L. S. Art School, Kalamazoo, Mich.
Olberg, Fred C.	Druggist, Port Orchard, Wash.
Perry, William J.	Electrician, Schenectady, N. Y.
Soreng, Edward M.	Electrical Engineer, Danville, Ky.
Ulrich, Darwin William	Electrical Engineer, Seattle, Wash.
Sperb, John J	Civil Engineer, Ocean View, B. C.
Underwood, Beatrice	Capitol, Mont.
Underwood, Loto R.	Capitol, Mont.
Weeks, Gordon A	Mechanical Engineer, Schenectady, N. Y.
West, Florence E.	Student, University of Minnesota, Minneapolis
Whitehead, Lindsey W.	Student, Mass. Inst. Tech., Boston, Mass.
Williams, Ruby	Student, U. of Chicago, Chicago, Ill.

PHARMACY GRADUATES.

Murphy, James P.	Druggist, Broadland
Hoch, Joseph L.	Drug Clerk, Elkton
Olberg, Fred C.	Druggist, Port Orchard, Wash.
Quiggle, Ernest J.	Drug Clerk, Groton

Class of 1909.

MASTER OF SCIENCE.

Oscar Mathews	Expert Dry Land Agriculture, Newell

MECHANICAL ENGINEER.

William Schaphorst	Technical Engineer, N. Y. City, N. Y.

ELECTRICAL ENGINEER.

Bruce, Elliott	Manual Training Teacher, Lesueur, Minn.

BACHELOR OF SCIENCE.

Bacon, Eva F.	Teacher, Castlewood
Bushnell, Edna	Student, Columbia U., N. Y. City
Camp, Fred	Photographer, Huron
Catlett, Winifred	Student, Wellesley, Coll., Mass.
Champlin, Manley	Special Agent, Dept. of Ag., Highmore
Clarke, Roy	Theological Student, Meadville, Penn.
Coughlin, Chas	Instr. Purdue Univ., La Fayette, Ind.
Denhart, Cecil	Real Estate, White
Erwin, Ada	Brookings
Evans, Iva	Teacher, Nunda

Furnstahl, John	Civil Engineer, Hibbing, Minn.
Jensen, Harvey	Law Student, Brookings
Jones, Robert	Law Student, Minneapolis
Kremer, Alvin	Bank Clerk, Brookings
Lane, Lloyd	Elec. Engr., Watertown
McKeown, Ralph	Farmer, Sentinel Butte, N. D.
Marquis, Sidney	Elec. Engr., Clear Lake
Matheny, Chester	Electrician, Schenectady, N. Y.
Odland, John	Farmer, Sentinel Butte, N. D.
Palm, Ellen	Teacher, Norden
Peirce, Ruth	Instr. Music, S. D. S. C.
Phillips, Geo.	Student, U. Wis., Madison, Wis.
Sarvis, Johnson	Asst. Botany, S. D. S. C.
Sperb, Frank	Civil Engr., Weiser, Idaho
Swering, Joe	Rock Rapids, Iowa
Treacy, Timothy	Theological Student, Somerset, O.
Vernlund, Carl	Student, Harvard Univ., Mass.
White, Orland	Ass't. Botany, S. D. S. C.
Wickre, Jacob	Farmer, Langford
Wright, Mary	DeSmet

PHARMACY GRADUATES.

Abbott, Guy S.	Druggist, Yale
Buck, Ervin	Druggist, Wessington Springs
Crosby, LeRoy	Drug Clerk, Hitchcock
Dickey, James	Student, Northwestern School of Pharm., Chicago.
Hage, Christian	Druggist, Toronto
Wilson, Frank M.	Drug Clerk, Northville
Youngberg, Guy	Asst., Chem., S. D. S. C.

MASTER OF SCIENCE.

Class of 1910.

Alton, Benjamin	Student, Harvard U., Mass.
Dutcher, Adams	Dairy Chemist, Mo. U., Columbia, Mo.
Youngberg, Guy	Asst. Chemistry, S. D. S. C.

MECHANICAL ENGINEER.

Hofstetter, George	Instr., Manual Training, Govt. School, P. I.

BACHELOR OF SCIENCE.

Atkinson, Fay	Farmer, White
Barber, Floyd	Civil Engineer, Everett, Wash.
Biggar, Howard H.	Asst., Agronomy, S. D. S. C.
Crothers, Ralph	Farmer, Norden
Crothers, Harold	Student, U. Wis., Madison, Wis.

Fickle, Walter	Died Jan. 26, 1911 at Blunt
Fridley, Ray	Automobile Expert, Brookings
Grotta, Edwin	Farmer, Moenville
Johnson, Charles	Civil Engineer, Bassano, Alberta, Can.
Johnson, Milla	Teacher, Hardwick, Minn.
Kartrude, Inga	Teacher, Hardwick, Minn.
Kelly, T. B.	Asst. Vet. Dept., S. D. S. C.
Lothrop, Elmer	Elec. Engineer, Redfield
Lloyd, Robert	Contractor, Los Angeles, Cal.
Matheny, Allie	Student, Chicago
Matheny, Fred	Civil Engineer, Seattle Wash.
Morrison, Joseph	Farmer, Hilland
Nagel, Herman	Stage Director, New York City
Ort, A. A.	Student, Wis. U., Madison, Wis.
Palm, Andrew	Farmer, Norden
Sexauer, Elmer	Salesman, Brookings
Sheldon, Nettie	Brookings
Wahl, Walker W.	Farmer, Columbia
Welch, Cecile	Student, S. D. S. C.
Wohlheter, Verne	Law Student, Mich. U., Ann Arbor, Mich.
Yocom, Frank	Science Teacher, Lake Benton, Minn.

PHARMACY GRADUATES.

Brown, Geo. B.	Drug Clerk, Pierre
Goldthorp, George	Druggist, Conde
Morrison, Joseph	Farmer, Hilland
Williams, Arthur	Drug Clerk, Conde

STUDENT LIST

Graduate Students

Peirce, Ruth J.	Brookings
Sarvis, Johnson	Brookings
Welch, Cecile	Brookings
White, Orland	Belmont
Youngberg, Guy	Brookings

COLLEGIATE STUDENTS

Seniors

Balmat, John	Civil Engineering	Yankton
Catlett, Marguerite	General Science	Brookings
Cooledge, Leslie	General Science	De Smet
Cottingham, Jay	General Science	Mt. Vernon
Erwin, Ruth	Home Economics	Brookings
Finley, Vollmar	Agriculture	Miller
Fridley, Bess	Home Economics	Brookings
Fridley, Richard	Agriculture	Brookings
Fromme, Fred	Agriculture	Richmond, Ind.
Gropengieser, Fred	Electrical Engineering	Onida
Haas, Carrie	General Science	Arlington
Hallen, Harold	Electrical Engineering	Brookings
Huntemer, Percy	Agriculture	Madison
Jarman, Maebelle	Home Economics	Brookings
Johnson, Clifford	Agriculture	Huron
Knutson, Geneva	Home Economics	Brookings
Ladd, Amy	Home Economics	Brookings
McMillan, Orville	Electrical Engineering	Alpena
Mathewson, Lynn	Electrical Engineering	Tripp
Meharg, Max	Electrical Engineering	Brookings
Mitchell, Harry	Electrical Engineering	De Smet
Odland, Ole M.	Civil Engineering	Hurley
Peterson, Helen	Home Economics	Brookings
Plocker, Florence	Home Economics	Brookings
Randall, Frank	Mechanical Engineering	Brookings
Quinn, Roy	Agriculture	Arlington

Sherwin, Muriel	Home Economics	Brookings
Starring, Cecil	Agriculture	Sturgis, S. D.
Swenehart, John	Agriculture	Brookings
Throop, Lotta	Home Economics	Brookings
Tinker Mable	Home Economics	Brookings
Wilson, Roy O.	General Science	Brookings

Juniors

Acheson, Roy	Civil Engineering	Montrose
Bibby, Irwin	Agriculture	Galesville, Wis.
Bisby, Guy	Pharmacy	Aurora
Carey, Edward	Electrical Engineering	Bryant
Crane, Vance	Civil Engineering	De Smet
Dachtler, Fred	Civil Engineering	Sturgis
Edson, Ray	Electrical Engineering	Alcester
Engstrom, Carl	Electrical Engineering	Redfield
Erdmann, Henry	Agriculture	Corsica
Granger, Paul	Civil Engineering	Brookings
Gurslee, Chris	General Science	Hendricks, Minn.
Hathaway, Floyd	Agriculture	Winnebago, Minn.
Jensen, Russell	Agriculture	Mitchell
King, Stanley	Civil Engineering	South Shore
Larson, John E.	Agriculture	Fairfield, Ia.
Marchant, Guy	Electrical Engineering	Brookings
Oakland, Irwin	Agriculture	Corsica
Peck, Arthur	Electrical Engineering	Windsor, Conn.
Pier, Clarence	Agriculture	Woonsocket
Reeve, John E.	Electrical Engineering	Howard
Revell, Grace	General Science	Brookings
Robinson, Pierre	General Science	Cherry Creek
Sauder, William	Agriculture	Milwaukee, Wis.
Sawyer, Clyde	Electrical Engineering	Howard
Schaphorst, Ben	General Science	Brookings
Shepard, Helen	General Science	Brookings
Skinner, Lila	Home Economics	Brookings
Sparks, Henry	Civil Engineering	Sturgis
Stearns, Arthur	Electrical Engineering	Pierre
Welker, Verne E.	Electrical Engineering	Redfield

Sophomore

Bacon, Harry	Pharmacy	Brookings
Binnewies, Edward	General Science	Colman
Brigham, Ruth	General Science	Brookings
Cole, Glenn	Agriculture	Gary

Dunn, Everett	Civil Engineering	Summit
Earl, Lorne	Agriculture	Mt. Vernon
Faulkner, Hugh	Mechanical Engineering	Burkmere
Fellows, Carl	Pharmacy	Plankinton
Furnish, Alta	General Science	Bunceton, Mo.
Girton, John	Electrical Engineering	Madison
Greenly, Maurice	General Science	Clear Lake
Grinols, Hazel	Home Economics	Brookings
Hanson, Walter	Mechanical Engineering	Howard
Heiser, Agnes	Home Economics	White
Hyde, Lloyd	General Science	Brookings
Huyck, Nina	Home Economics	Lebanon
Johnston, Sara	General Science	Brookings
Kremer, Ralph	Agriculture	Brookings
Landweer, Earl	Electrical Engineering	Hartford
Martin, Earl S.	Pharmacy	Wessington
Matheny, Hazel	Home Economics	Conde
Mills, Rollin	Agriculture	Huron
Morrow, Strayer	Home Economics	Lacey
Nilsson, Anna	General Science	Gary
Nord, Roy	General Science	Brookings
Rilling, Harry	General Science	Brookings
Sanderson, Harry	Agriculture	Brookings
Schoenwether, Vernon V.	Agriculture	Greenacres, Wash.
Serles, Earl	Pharmacy	Salem
Shanley, Clarence	Agriculture	Mansfield
Shea, Henry	Pharmacy	Brookings
Sloan, Edith	Home Economics	Brookings
Sloan, Samuel	Agriculture	Brookings
Somers, Grace	Home Economics	Brookings
Soule, Roy	Pharmacy	Brookings
Templeton, Mable	General Science	Wessington
Vercoe, Lewis	Civil Engineering	Carthage
Vis, Heyme	Pharmacy	Harrison
Wood, Ruth	General Science	Hot Springs

Freshman

Allison, Arthur	Agriculture	Cavour
Anderson, Elmer	Pharmacy	Veblen
Ausman, Leslie	Agriculture	Wess. Springs
Armstrong, Inez	Home Economics	Brookings
Bacon, Lois	Home Economics	Gettysburg
Brookens, P. Floyd	Agriculture	Parker
Bushey, Alfred	Agriculture	Castlewood
Casley, Lulu	General Science	Brookings

Chappell, Vincent	Agriculture	Brookings
Christianson, Helen	Pharmacy	Volga
Clifford, Perry	Agriculture	Cresbard
Dulitz, Helen	Home Economics	Webster
Elliott, Robert	General Science	Brookings
Evans, Roy	Mechanical Engineering	Brookings
Farrar, Vere	Pharmacy	Langford
Farnham, Bernice	Pharmacy	Milbank
Fassett, Gladys	Home Economics	Brookings
Gilbertson, George	Civil Engineering	Castlewood
Gropengieser, Bessie	General Science	Onida
Habeger, Benjamin	Electrical Engineering	Madison
Halladay, Clinton	Civil Engineering	Iroquois
Heck, Emil	Civil Engineering	Brookings
Hewitt, Ernest	Agriculture	Egan
Hofstetter, Clarence	Mechanical Engineering	Mitchell
Houghton, Jay	Electrical Engineering	Osceola
Johnson, Dwight	Pharmacy	Brookings
Joseph, William	Agriculture	Iroquois
Kelly, Eugene	General Science	Brookings
Lawler, Frank	Pharmacy	Ree Heights
Leavitt, Ethel	Pharmacy	Milbank
Legler, Edward	Electrical Engineering	Redfield
Lenocker, Everett	Electrical Engineering	Brookings
Lilly, Clarence	Pharmacy	Onida
Lockhart, James	Agriculture	Brookings
McIntosh, Clifford	Pharmacy	Dell Rapids
Mayland, Guy	Agriculture	Brookings
Mears, Hugh	Pharmacy	Bancroft
Morton, Richard	Pharmacy	Sisseton
Nash, Chas.	Agriculture	Platte
Richter, August	Agriculture	Dell Rapids
Ritzman, Leon	Electrical Engineering	Canova
Serles Raymond	Pharmacy	Brookings
Sexauer, Laura	Home Economics	Brookings
Sherwood, Reginald	General Science	De Smet
Slightam, Kate	Home Economics	Brookings
Somers, Ruth	General Science	Brookings
Temmey, Leo	Electrical Engineering	Onida
Treacy, James	Agriculture	De Smet
Troup, James	Agriculture	Colman
Valentine, Vey	Agriculture	White
Vaughan, William S.	Pharmacy	Milesville
Webster, Chas.	Pharmacy	Hurley
White, Henry	General Science	Delmont

Wills, Ernest	Electrical Engineering	Brookings
Wood, Nina	Home Economics	Brookings
Wornson, Walter	Pharmacy	Brookings
Wilkins, Scott	Agriculture	Mitchell

COLLEGE SPECIALS

Aase, Hannah	Elk Point
Aldridge, Sherman	Armour
Atwood, George	Erwin
Basgen, Fred	Goodwin
Black, Ella	Brookings
Britzius, Arno	Aberdeen
Chamberlain, Rolph	Brookings
Chappell, William	Brookings
Farrar, Myrtle	Langford
Fowlds, Matthew	Arco, Minn.
Freiberg, George	Eitzen, Minn.
Haney, E. R.	Manson, Ia.
Hay, Mabel	Revillo
Hersey, Arthur	Conde
Holstrom, Ruth	Howard
Jackson, Chester	Lebanon
Karr, Hazel	Brookings
Keller, Florence	Iroquois
Lyle, William	Beresford
McAllister, Rush	Flandreau
Mears, Hazel	Brookings
Melick, Loring	Springfield
Newton, Viola	Winnebago, Ill.
Orth, Dora	Elkton
Orth, Ruby	Elkton
Pence, Clay	Howard
Ribstein, Luella	Bruce
Skinner, Lela	Brookings
Throop, Mrs. R.	Brookings
Williams, William	Springfield

PREPARATORY STUDENTS

Third Year

Anderson, Gladys	Brookings
Anderson, Leslie	Brookings
Arneson, Henry	Brookings
Briggs, Stella	Brookings
Clark, Raleigh	Armour
Connell, Fred	Alexandria
Culhane, Alexander	Elkton
Culhane, James	Elkton
Culhane, Roger	Elkton
Dakin, Carl	Brookings
Gullick, Genevieve	Brookings
Henjum, Lewis	Garretson
Heiser, Elizabeth	White
Jensen, Frank	Mitchell
Jensen, Ross	Brookings
Johnson, Clifton	Brookings
McMillan, Christina	Brookings
Nolan, M. S.	Brookings
Nord, Florence	Brookings
Pilmer, Miller	Brookings
Quinn, Arthur	Arlington
Robinson, Henry	Cherry Creek
Sample, Evangeline	Brookings
Scotchbrook, Frances	Brookings
Slaymaker, Elizabeth	Rock Rapids, Ia.
Somers, Louden	Brookings
Temmey, Catherine	Onida

Second Year

Bogstie, Emma	Brookings
Bohlke, Minnie	Brookings
Casey, Vera	Pierre
Coe, Raymond	Volga
Dewing, Dexter	Brookings
Digre, Martin	Hendricks, Minn.
Fournier, Leon	Cambridge, Mass.
Fryer, Julia	Doland
Grinols, Mavis	Brookings
Haney, George I.	Manson, Ia.

Haugen, Thorwald	Brookings
Hay, Arthur	Revillo
Herbert, Harry	Flandreau
Hoy, Louise	La Delle
Jorgenson, Andrew	Summit
King, Chas.	Brookings
King, Katherine	South Shore
Kleine, Mildred	Magnolia, Minn.
Larson, Elmer	Colton
Lynch, Ruth	Brookings
Mailey, Ina	Brookings
Miner, Chas.	Huron
Mohler, Clyde	Mohler
Olson, Florence	Brookings
Otto, Clive	Tripp
Pardau, Earl	Watertown
Phillips, Laura	Aurora
Scotchbrook, Carl	Brookings
Schad, John	Summit
Sellers, Clarence	Belle Fourche
Spurling, Ruth	Brookings
Strachan, Thos.	Chelsea
Street, Thomas	Albee
Swift, Jas. E.	Brookings
Trygstad, George	Brookings
Ulring, Thea	Luverne, Minn.
Tinker, Bessie	Brookings
Weber, Anna	Farmer

First Year

Alrick, Lillia	Brookings
Amundson, Amund	Brookings
Apland, Bertha	Viborg
Beals, Mamie	Brookings
Bortness, John S.	Brookings
Briggs, Cyrus	Sheldon, Ia.
Cochran, Lloyd	Brookings
Eclov, Hjalmar	Stockholm
English, Gladys	Lignite, N. D.
Fenner, Mial	Esmond
Gay, Lloyd	Belle Fourche
Giannonatti, Andrew	Ludlow
Gianonatti, Elene	Ludlow
Gilbert, Helen	La Delle
Gilbertson, Gilbert	Brookings

Grangaard, Oswald	Wakonda
Hawkins, Maude	Brookings
Henjum, Arthur	Garretson
Holms, Clara	Brookings
Holmes, Walter	Brookings
Holmstrom, John	Crooks
Knox, Frank	Huron
Lynch, Edward	Brookings
Martinson, Anna	Brookings
Peterson, Phebe	Rapid City
Prentice, Jennie	Brookings
Riis, Jens	Denmark
Sannes, Olga	Lily
Shearer, Lee	De Smet
Sheehan, LeRoy	Lake Norden
Shinnick, Ruth	Waverly
Swenehart, Millie	Brookings
Thompson, Anna	Viborg
Tufty, Clifford	Nunda
Vrenegor, Jack	Watertown
Walton, Sarah	Hitchcock
Ward, Chas.	Snoma
Ward, Clarence	Snoma
Williamsen, Christine	Saltum, Denmark
Williamson, Guy	Artesion

Music Students

Aase, Hannah	Piano	Elk Point
Aasen, Julius	Cornet	Renner
Alrick, Lillia	Piano	Brookings
Armstrong, Inez	Piano	Brookings
Arthur, J. Ray	Drum	Elrod
Bogstie, Emma	Piano	Brookings
Conklin, Reuben	Piano	Gayville
Earl, Lorne	Piano	Mt. Vernon
Farrar, Myrtle	Piano	Langford
Freiberg, George	Violin and Voice	Eitzen, Minn.
Fromme, John H.	Violin	Summit
Fryer, Julia	Piano	Doland
Gardner, George	Voice	Orient
Giannonatti, Andrew	Violin	Ludlow
Giannonatti, Elene	Piano	Ludlow
Grinols, Mavis	Piano	Brookings
Halladay, Clinton	Cornet	Iroquois
Hansen, Eunice	Piano	Hurley

Henjum, Arthur	Violin	Garretson
Heirigs, Thresia	Piano	Hurley
Holstrom, Ruth	Piano	Howard
Hoy, Louise	Piano	La Delle
Johnston, Harry	Cornet	Bruce
Karr, Hazel	Piano	Brookings
Keller, Florence	Piano	Iroquois
King, Katherine	Piano	South Shore
Ladd, Bessie	Piano	Brookings
Larson, Elmer	Piano	Colton
McMillan, Christine	Piano	Brookings
Matson, Myrum	Cornet	Lake Preston
Mears, Hazel	Piano	Brookings
Mills, Rollin	Violin	Huron
Morton, Leila	Piano	Newton Ia.
Orth, Ruby	Piano	Elkton
Peirce, Ruth	Piano	Brookings
Peterson, Phebe	Piano	Rapid City
Prentice, Jennie	Piano	Brookings
Rehnke, Ernest	Violin	Crandon
Ribstein, Luella	Piano	Bruce
Schrader, Fred	Trombone	Lake Preston
Scotchbrook, Carl	Piano	Brookings
Scotchbrook, Frances	Piano	Brookings
Sexauer, Laura	Piano	Brookings
Shinnick, Ruth	Piano	Waverly
Skinner, Lela	Piano	Brookings
Spets, Tollie	Piano and Voice	Creighton
Swenehart, Millie	Piano	Brookings
Temmey, Catherine	Piano	Onida
Thompson, Anna	Piano	Viborg
Whitmore, Frank	Horn	Madison
Willett, George	Cornet	Tulare
Williamsen, Christine	Piano	Saltum, Denmark
Youngquist, Carl	Violin	Langford

SCHOOL OF AGRICULTURE STUDENTS

Third Year

Anderson, Ernest C.	Crooks
Berkey, William E.	Ashton
Brenneman, Walter	Wessington Springs

Connell, Fred	Alexandria
Eggleston, Earl	Parker
Gerner, Chas. A.	Platte
Hale, Irene	Wessington Springs
Hansen, Eunice	Hurley
Johnson, Horace	Pierpont
Johnson, M. O.	Pierpont
Johnson, Ward	Pierpont
Kirkeby, Clarence	Naples
Kirsch, Elizabeth	Watertown
Ladd, Bessie	Brookings
Lakings, Roy	Hurley
Love, Jay D.	Hartford
Nelson, Edward	Mt. Vernon
Rebrud, Clarence	Ipswich
Schwantes, Harry C.	Big Stone
Sharp, Millie	Bristol
Speirs, John R.	Ree Heights
Spets, Tollie	Creighton
Watson, Earl	Mitchell
Wuertz, Fred	Hartford

Second Year

Aasen, Julius	Renner
Arthur, J. Ray	Elrod
Broich, Walter	Big Stone
Brown, Harry	Waverly
Caverhill, Fred	Castlewood
Caverhill, William	Castlewood
Crist, Veda M.	Wessington Springs
Downer, Nellie	Freeman
Fasbender, Veronica	Hendricks, Minn.
Gardner, George	Orient
Gerner, Agnes	Platte
Getzin, Frank	Humboldt
Gross, Ellwood	Madison
Hague, Alton	Highmore
Horton, Harrison	Linden, Ia.
Johnston, Harry	Bruce
Karlstad, Chas. H.	Dempster
Koch, Maggie	Duncan
McKay, Archie	Orient
Marquardt, Albert	Wentworth
Molskness, Mattie	Colman
Nord, Axel O. E.	Milbank
Norman, Evan	Clear Lake

Reeves, Delbert	Volga
Ruhlman, Robert	Rockham
Schrader, Fred	Lake Preston
Sebring, Fred	Orient
Sharp, Clarence	Bristol
Skogstad, Alfred	Florence
Slocum, Marion	Ipswich
Smith, J. H.	Roslyn
Smith, Walter C.	Selby
Soreng, Alfred	Florence
Stengel, Silas W.	Milbank
Strand, David	Ellendale, N. D.
Whitmore, Frank	Madison
Williams, Robert	Platte

First Year

Abeln, Henry	Groton
Abrahamson, Melvin	Letcher
Anderson, Clara	Canning
Anderson, Nathan P.	St. Lawrence
Baxter, Grace	Grover
Benning, Walter C.	Rockham
Bickel, Frank	Clark
Buss, Grace	Mt. Vernon
Buss, Jesse	Mt. Vernon
Corwin, Earl	Rock Valley, Ia.
Crisp, Harry	Dell Rapids
Cunningham, Ray	Conde
Dimick, Lyle	Vermillion
Dokken, Arthur	Astoria
Elson, David A.	Britton
Engen, Albert	Canton
Flint, Sylvia	Oldham
Fromme, John H.	Summit
Gearin, Edward	Webster
Giannonatti, Carlo	Ludlow
Gilgore, Harold D.	Esmond
Gregg, Clark	Hartford
Gusler, Glen	Winner
Hansen, Edna	Burbank
Hatlestad, Melvin	Garretson
Hay, Chas.	Revillo
Heffernan, Thos.	Big Stone
Herr, Edward	Bristol
Hogberg, Carl	Webster
Ison, Guy A.	Alcester

Johnson, Arvid G.	Strandburg
Johnson, Henry	Andover
Karlstad, Alma L.	Dempster
Keck, Chas.	Brookings
Knudson, Ottelia	De Smet
Kurtz, Fred	Bushnell
Lacher, Joseph	Ipswich
Lakings, Alva	Hurley
Lawson, Clarence	Brookings
Lynch, Aloysius	Lily
McGaffee, Perry	Harrold
Martyne, Clarence	Dell Rapids
Martin, Charl E.	Deadwood
Merry, John	Dell Rapids
Millard, Herbert E.	Garretson
Montgomery, Edwin	Alexandria
Munn, Roy H.	Humboldt
Nelson, Robert	Armour
Nicol, James D.	Pioneer
Nolte, William	Bristol
Olson, Rose	Colman
Oviatt, Guy	Huron
Pilmer, George	Brookings
Pitts, Merton	Winfred
Price, William G.	Tulare
Ruhlman, Donald	Rockham
Scott, Minard R.	Genoa, Ill.
Serles, Roscoe	Brookings
Sharp, George	Bristol
Shoemaker, Michael	Ipswich
Short, Omar	Brookings
Speirs, Ralph	Ree Heights
Stephens, Roy	Humboldt
Thompson, Edward	Lily
Thompson, Frank	Langford
Tilly, John	Grover
Traphagen, Julian	Britton
Tucker, Fey	Huron
Vrymoet, Ben	Belvedere
Wachtmann, Arthur	Oldham
Wickre, Benj.	Webster
Willett, George W.	Tulare
Wilson, Allan	Pierpont
Wood, Milton	Brookings
Zoodsma, Claus	Ashton

SHORT COURSE STUDENTS

Steam Engineering

Alseike, John	Estelline
Bortness, Clarence	Brookings
Carter, Tellef	Menno
Conklin, Reuben	Gayville
Cook, Robert	Alpena
Curtin, Dan	Spencer
Elliott, Paul	Brookings
Englund, Fritchuf	Strandburg
Gerken, Frank	Miranda
Gorseth, Chris	Irene
Gorseth, Ole P.	Irene
Gross, Ellwood	Madison
Hanson, Emil	Langford
Hazlett, Oliver	Tulare
Heffernan, Thos.	Big Stone
Jensen, Clarence	Vienna
Krieger, Gerhard	White Lake
Larson, Henry	Colton
Matson, Myrum	Lake Preston
Nordgren, Carl J.	Arlington
Norton, Daniel	Brookings
Pease, Frank	Kennebec
Peschong, Nick	Milbank
Paulsen, Mads	Yankton
Pilmer, George W.	Brookings
Rehnke, Ernest	Crandon
Schmid, Elmer	Beresford
Sechser, Leo	Sioux Falls
Warne, Arthur	Baltic
Wilkey, Percy M.	Clark
Willett, George W.	Tulare
Youngquist, Carl J.	Langford

Two Weeks Agriculture

Anderson, Nathan P.	St. Lawrence
Anderson, Oscar	Brandt
Benney, Irvin	Parker
Borgen, Andrew	Sioux Falls
Case, Ross M.	Belle Fourche

Chapman, Reuben	Gayville
Elson, James	Britton
Fuglsbo, Alfred	Sherman
Gevik, Alfred	Irene
Green, John J.	Brookings
Halverson, Oscar	Mt. Vernon
Hanson, Emil	Langford
Holm, Sam	Volin
Jackson, Fred	Wallace
Jones, Wilfred	Aberdeen
Kelton, John R.	Henry
Kjerdseth, Oscar	Volin
May, Chas. A.	Sturgis
Peterson, Adolph	Naples
Peterson, Peter	Naples
Pilmer, R. A.	Brookings
Riedel, Richard	Ramona
Riggs, R. F.	Oahe
Stoner, L. S.	Highmore
Ulvilden, Olaf	Sioux Falls

Three Months Dairy Course

Chester, C. A.	Windom, Minn.
Coles, Chas. W.	Milesville
Holden, C. L.	Pierre
McCauley, Frank C.	Lyle, Minn.
Meehan, T. A.	Lincoln, Neb.
Nerland, Ingvald	Hanse
Valentine, F. L.	White

Three Months Home Economics Course

Anderson, Louise	Sioux Falls
Borgen, Inga	Sioux Falls
Christianson, Dolores	Jasper, Minn.
Dalemoe, Annie	Crooks
Dalemoe, Christina	Crooks
Heirigs, Thresia	Hurley
Holter, Annie	Jasper, Minn.
McKee, Inez	Wagner
Sorenson, Julia	Ervin
Wobig, Emma	Canova

Summer School Ending July 13th, 1910

Armstrong, Inez	Brookings
Bacon, Eva	Brookings
Barner, Emma	Clear Lake
Blakely, Herbert	Brookings
Blakely, Mary	Brookings
Bolles, Laura	Brookings
Bonesteel, Gertrude	Watertown
Bradwell, S. H.	Harvey
Caldwell, Florence	Brookings
Canfield, Ethel	Brookings
Chapman, Mary	Brookings
Christianson, Malla	Volga
Christenson, Minnie	Lake Preston
Coleman, A. D.	Bruce
Cunningham, Beulah	Brookings
Dahl, Inga	Volga
Davis, Clara	Brookings
Eken, Selma	Volga
Elliott, Bruce A.	Brookings
Erickson, Lottie	Bruce
Estrem, Ruth	Brookings
Evans, Iva	Brookings
Evenson, Julius	Volga
Fantz, Bessie	Nevada, Ia.
Fasbender, Veronica	Hendricks, Minn.
Feeney, Margaret	Elkton
Ford, Jennie E.	Brookings
Frost, Grace	Brookings
Getty, Janey	Brookings
Grovum, Cora H.	Volga
Hallen, Winnie	Brookings
Harding, Chas. J.	Brookings
Hartwick, A. L.	Brookings
Hawkins, Maude	Brookings
Heck, Elizabeth	Elkton
Hendricks, Mathilda	Lake Preston
Hinch, Iva	White
Hoagland, Althea	Brookpark, Minn.
Hoy, C. R.	Gary
Iverson, Selma	Brookings
Jensen, Gladys L.	Brookings
Jerde, Edna	Brookings
Johnson, Alma	Brookings
Johnson, Emma	Madison

Johnson, Joseph	Hendricks, Minn.
Jolley, Mrs. Ada	Castlewood
Judd, Laura	Bushnell
Judd, Pearl	Bushnell
Karlstad, Julia B.	Brookings
Karr, Hazel	Brookings
Karr, Jennie	Brookings
Kramer, Henrietta	Brookings
Lamb, Clara	Brookings
Lee, Lillie	Volga
Leete, May	Volga
Lien, Theo.	Volga
Looysen, Sara M.	White
Marshman, E. Grace	Brookings
Matheny, Allie	Brookings
Mathews, Alice	Brookings
Mitchell, Arthur	Volga
Moe, Jettie	Bruce
Morris, Effie	Brookings
Morris, Elsie	Brookings
Myhres, Clara	Arlington
Nelson, Ida	Bruce
Nielson, Dorthea	Arlington
Norman, Luetta	Clear Lake
O'Leary Mary	Elkton
Parks, Delia	Bushnell
Parks, Eva M.	Bushnell
Perry, Jennie	Brookings
Peterson, Edith	Brookings
Place, Audrey	Wessington
Place, Mrs. Hattie	Wessington
Prowse, Kathryne	Brookings
Revell, Alma	Brookings
Revell, Grace	Brookings
Rude, Lillian	Brookings
Rudolph, Rae L.	Aurora
Sloan, Edith	Brookings
Sloan, Margaret	Brookings
Snider, Lovina	Volga
Stearns, Mae	Brookings
Stephens, Jennie	Brookings
Strong, Loretta	Elkton
Sutton, Maebel	Brookings
Sutton, Olive	Brookings
Stumley, Matilda	Volga

Thompson, Loraine	Volga
Thorsness, Anna	Volga
Underhill, David	Brookings
Vostad, Gena	Volga
Wallen, Dora	Volga
Wallen, Edna	Volga
Walleser, Florence	Gary
Waltner, Jonathan	Freeman
Wood, Nina	Brookings

Summary

Graduate Students		5
Collegiate Students—		
Seniors	32	
Juniors	30	
Sophomores	39	
Freshmen	57	
Specials	30	
		188
Preparatory Students—		
Third Year	27	
Second Year	38	
First Year	40	
		105
Music Students		54
School of Agriculture—		
Third Year	24	
Second Year	37	
First Year	75	
		136
Short Course Students—		
Steam Engineers	32	
Three Months Dairy	7	
Three Months Home Economics	11	
Two Weeks Agriculture	27	
		77
Summer School Students		98
Total		663
Names Repeated		59
Net Total		604

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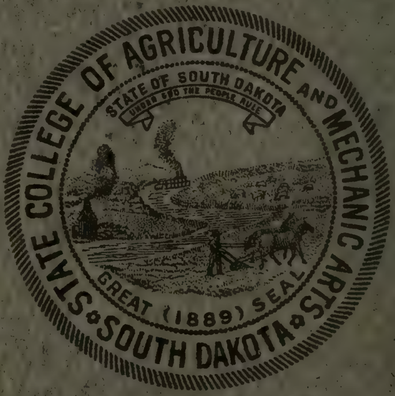
LOCATION

The State College of Agriculture and Mechanic Arts is located upon an eminence one mile from the business center of the city of Brookings, and four miles from the Big Sioux River. Brookings is situated on the Central Dakota Division of the Chicago and North-Western Railway, the Watertown branch of the same road making connection with the main line at this point. The city has a population of about three thousand five hundred thrifty, intelligent and hospitable people. It is lighted by electricity and has a complete water and sewer system, owned by the municipality.

The streets are lined with trees and there are very few houses without well kept lawns, upon which are growing trees, beautiful flowering shrubs and plants. It is often called the City of Homes.

It is a city of clean morals. No saloon has been allowed within its limits for several years. In the general election of 1896 Brookings County was the banner county of the state in its vote against allowing intoxicating liquors to be sold in the state. In the spring election of 1898 the proposition to allow saloons within the city limits was defeated by a vote of three to one.


STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS
SOUTH DAKOTA
STATE OF SOUTH DAKOTA
UNDER GOD THE PEOPLE RULE
GREAT (1889) SEAL

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Vol. IV April 1912 No. IV

South Dakota State College of Agriculture and Mechanic Arts

Bulletin

Annual Catalog

1911 - 1912

Published Quarterly by
SOUTH DAKOTA STATE COLLEGE
Brookings, S. D.

Entered as second-class matter August 10, 1908, at
the postoffice at Brookings, S. D., under
Act of July 16, 1904.

THE COLLEGE BULLETIN

The South Dakota State College Bulletin is Published quarterly by authority of the Regents of Education.

The Bulletin contains information in detail relative to the entrance requirements of the different courses of instruction, the schedules of study, lists of instructors of the institution and its administration, equipment, organizations, publications, funds, students' expenses, scholarships, prizes, etc.

The institution includes the following college departments: Animal Husbandry, Dairy Husbandry, Agronomy, Horticulture, and Forestry, Veterinary Medicine, Home Economics and Domestic Art, Mechanical, Electrical and Civil Engineering, English, Modern Languages, History and Political Science, Philosophy, Mathematics and Astronomy, Physics, Botany, Entomology and Nature Study, Zoology, Chemistry, Pharmacy, Music, Art, Military Science and Tactics, and Commercial Science.

There are also the Preparatory Department, the Agricultural Experiment Station and the School of Agriculture.

Additional short special courses of instruction are given at the institution in Agriculture, Dairying, Home Economics, and Steam Engineering. Correspondence courses are also being arranged in Agriculture, Nature Study and Home Economics. Bulletins are sent free, postage paid, on request. The request should indicate the department concerning which information is desired.

Address: The President, State College, Brookings, South Dakota.

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Press of the
REGISTER PUBLISHING COMPANY
Brookings, South Dakota

Calendar of 1912-1913

1912 FIRST SEMESTER

September 19-20-21—Entrance examinations and registration.
September 23—Work of first semester begins at 8 o'clock a. m.
November 1—Last day for announcing subjects of theses.
November 1—School of Agriculture opens.
November 28-29—Thanksgiving recess.
December 19—First term of School of Agriculture closes at 4:15 p. m.
December 19—Christmas vacation begins at 4:15 p. m.

1913

January 7—Christmas vacation ends at 8:00 a. m.
January 7—Second term of School of Agriculture begins.
January 27-31—Examination week.

SECOND SEMESTER

February 4—Second semester begins at 8:00 a. m.
March 27—School of Agriculture closes.
March 27—April 1, inclusive—Spring vacation.
May 26—Senior vacation begins.
June 2-6—Examination week.
June 8—Baccalaureate Sunday.
June 11—Commencement exercises at 10:30 a. m.

Calendar of Short Courses

January 7-June 6—Short course in traction engineering.
January 7-March 27—Three months' creamery course.
January 7-March 27— Three months' course in home economics.
January 7-January 18—Two weeks' course in agriculture.
April 2-April 18—Three weeks' automobile course.

Regents of Education

Hon. Albert M. Anderson	Sturgis
Hon. A. E. Hitchcock	Mitchell
Hon. T. W. Dwight	Sioux Falls
Hon. August Frieberg	Beresford
Hon. Henry Reinhardt	Eureka

Officers of the Board

Hon. A. E. Hitchcock	President
Hon. F. W. Ford	Secretary
Hon. George G. Johnson, (State Treasurer)	Treasurer

Regents' Committee for the College

Hon. T. W. Dwight.............Hon. Albert M. Anderson

*Faculty

ROBERT LINCOLN SLAGLE, A. M., Ph. D., President.

A. B., Lafayette College, 1887; A. M., Lafayette College, 1890; Ph. D., Johns Hopkins University, 1894; Assistant to Professor W. O. Atwater in food investigation, Middletown, Connecticut, and New York City, 1894-1895; Professor of Chemistry, South Dakota Agricultural College, 1895-1897; President and Professor of Chemistry, South Dakota School of Mines, 1897-1905; present position since 1906.

JAMES HENRY SHEPARD, B. S., Professor of Chemistry.

B. S., University of Michigan, 1875; Post-Graduate Student in University of Michigan, 1881-1882; Instructor in Natural Sciences, Ypsilanti, Michigan, High School, 1882-1886; present position since 1888.

HALVOR CHRISTIAN SOLBERG, M. E., Professor of Mechanical and Steam Engineering.

B. S., South Dakota Agricultural College, 1891; B. M. E., Purdue University, 1895; M. E., Purdue University, 1896; Professor of Practical Mechanics, South Dakota Agricultural College, 1891-1896; present position since 1896.

NIELS EBBESEN HANSEN, M. S., Professor of Horticulture and Forestry.

B. S., Iowa Agricultural College, 1887; M. S., Iowa Agricultural College, 1894; Commercial Iowa Nurseries, Atlantic and Des Moines, 1888-1891; Assistant Professor in Horticulture, Iowa Agricultural College, 1891-1895; Studied in Europe, 1894; Agricultural Explorer for U. S. Department of Agriculture to Europe and Asia, 1897-1898, and 1906-1907; to Siberia, Turkestan and Algiers, 1908-1909; present position since 1895.

HUBERT BERTON MATHEWS, M. S., Professor of Physics.

B. S., South Dakota Agricultural College, 1892; M. S., South Dakota Agricultural College, 1899; pursued special work at various times in the Universities of Michigan, Wisconsin and Nebraska; Superintendent of City Schools, Clark, S. D., 1892-1893; Assistant in Chemistry and Physics, South Dakota Agricultural College, 1893-1896; Professor of Physics, 1896-1899; Professor of Physics and Electrical Engineering, 1899-1906; Vice-President, 1904-1906; present position since 1909.

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*With the exception of the president, the names occur in the order of appointment.

BOWER THOMAS WHITEHEAD, M. S., Ph. C., Professor of Pharmacy.

Ph. G., South Dakota Agricultural College, 1895; Ph. C., Northwestern University, 1896; B. S., South Dakota Agricultural College, 1897; M. S., South Dakota Agricultural College, 1901; Instructor in Pharmacy, South Dakota Agricultural College, 1895; present position since 1896.

GEORGE LINCOLN BROWN, Ph. D., Professor of Mathematics and Dean of the Faculty.

B. S., University of Missouri, 1892; Teaching Fellow in Mathematics, 1892-1893; M. S., 1893; Fellow in Mathematics, University of Chicago, 1894-1896; Ph. D., University of Chicago, 1900; Professor of Mathematics, South Dakota Agricultural College, 1897-1910; Acting President South Dakota State College, summer and fall of 1908; present position since 1910.

EDWARD LOCKHART MOORE, B. S., D. V. S., Professor of Veterinary Medicine.

B. S., Cornell University, 1896; D. V. S., Columbian University, 1898; present position since 1898.

ADA BERTHA CALDWELL, Professor of Industrial Art and Preceptress.

Student Art Institute of Chicago, 1893-1897; Instructor in Art, Yankton College, 1897-1899; Professor of Industrial Art, South Dakota Agricultural College, 1899-1907; Student Teachers' College, N. Y., and Chase School of Art, N. Y., 1903-1904; Student Summer Course Handicraft Guild, Minneapolis, 1905, 1906 and 1907; Student Commonwealth Art School, Maine, during summer, 1910; present position since 1907.

ROBERT BLACKWOOD FORSEE, Pe. P., Principal of Preparatory Department.

Principal of Pedagogy, Western College, Missouri, 1888; Principal of Schools at Elgin, Mo., 1889-1891; Steffenville, 1892-1893; Estelline, South Dakota, 1895-1896; County Superintendent Hamlin County, South Dakota, Schools, 1896-1900; present position since 1901.

ALBERT SPENCER HARDING, A. M., Professor of History and Political Science.

B. S., South Dakota Agricultural College, 1892; Fellow in American History, University of Nebraska, 1896-1897; A. M., University of Nebraska, 1897; Assistant in History and Civics, South Dakota Agricultural College, 1897-1900; present position since 1901.

JAMES WILBUR WILSON, M. S. A., Director of the Experiment Station and Professor of Animal Husbandry.

B. S. A., Iowa Agricultural College, 1896; M. S. A., Iowa Agricultural College, 1898; Assistant in Agriculture at the Iowa Agricultural College, 1896-1897; Private Secretary to Secretary of Agriculture, 1897-1900; present position since 1902.

WILLIAM HOWARD POWERS, A. B., M. A., Librarian and Associate Professor of English.

A. B., Miami University, 1891; A. M., Harvard University, 1899; Student in the Graduate School, Harvard, 1899-1901; Instructor in Mathematics, Ohio Normal University, 1888-1889; Master of the High School, Marwich, Massachusetts, 1892-1895; Head of the Department of English, High School, Pawtucket, Rhode Island, 1895-1898; Professor of English, Huron College, 1901-1905; present position since 1905.

HOMER MUNRO DERR, A. M. Ph. D., Professor of Civil Engineering.

A B., Leland Stanford University, 1898; A. M., Columbia University, 1901; Ph. D., University of Pennsylvania, 1903; elected Scholar in Physics, Clark University, 1899, and Scholar in Geology, Columbia University, same year; Assistant in Physics, Columbia University, 1899-1901; Instructor in Mining Engineering and Geology, University of Wyoming, 1901-1902; Tyndall Fellow, University of Pennsylvania, 1902-1903; Superintendent of Mines and in charge of dam construction for hydraulic mining, Colombia, South America, 1903-1904; Professor of Mathematics and Civil Engineering, Clarkson School of Technology, 1904-1906; Engineer with South Dakota Railroad Commission 1908-1910; Assoc. M. Am. Soc. C. E.; present position since 1907.

ARTHUR A. BRIGHAM, Ph. D., Principal of the School of Agriculture; Director of Summer School.

B. S., Massachusetts Agricultural College, 1878; Professor of Agriculture, Imperial College of Agriculture, Sapporo, Japan, 1888-1893; Ph. D., University of Goettingen, Germany, 1896; Professor of Agriculture, College of Agriculture and Mechanic Arts, Rhode Island, 1896-1901; Director Agricultural Experiment Station, Rhode Island, 1897-1901; Experimenting in Incubation, Ithaca, N. Y., 1901-1902; Director Columbia School of Poultry Culture, 1903-1904; Lecturer, University of Nebraska, 1905-1906; present position since 1907.

EDGAR WILLIAM OLIVE, A. M., Ph. D., Professor of Botany and Plant Pathology.

B. S., Wabash College, 1893; S. M., Wabash College, 1895; A. M., Harvard University, 1897; Ph. D., Harvard University, 1902; Assistant in Botany, Harvard University and Radcliffe College, 1897-1898; Instructor in Botany, Harvard and Radcliffe, 1898-1903; Research

Assistant of Carnegie Institution of Washington at University of Bonn, 1904-1905, and at the University of Wisconsin, 1905-1907; Lecturer in Botany, University of Wisconsin, 1905-1907; present position since 1907.

CHRISTIAN LARSEN, M. S. A., Professor of Dairy Husbandry.

B. S. A., Iowa State College, 1902; M. S. A., Iowa State College, 1904; Study of European dairying, 1900; Dairy Instructor, Massachusetts Agricultural College, 1901; Assistant and Associate Professor of Dairying, Iowa State College, 1902-1906; Professor of Dairy Husbandry, Utah Agricultural College, 1907; present position since 1907.

MADISON CLAIR BATES, A. M., Professor of English.

A. B., Williams College, 1904; A. M., Williams College, 1905; A. M., Harvard University, 1906; Instructor in English, University of Illinois, 1906-1907; Scholar in English, Graduate School, Columbia University, 1909-1910; present position since 1907.

JOSEPH NEWTON RODEHEAVER, A. M., Ph. D., Professor of Philosophy and Education.

B. S., Ohio Wesleyan University, 1901; A. M., Ohio Wesleyan University, 1902; Instructor in Philosophy and English, Ohio Wesleyan University, 1901-1903; Fellow in Psychology, Clark University, Worcester, Massachusetts, 1903-1904; Student in Philosophy, Graduate School, Boston University, 1904-1905; Acting Professor of English and Logic, Middlebury, Vermont, College, 1905-1906; Instructor in Logic, School of Expression, Boston, 1906-1907; Ph. D., Boston University, 1907; Instructor in Psychology and Public Speaking, Wabash College, 1907-1908; present position since 1908.

BYRON BRIGGS BRACKETT, A. M., Ph. D., Professor of Electrical Engineering.

A. B., Syracuse University, 1890; A. M., Syracuse University, 1893; Certificate of Proficiency in Electrical Engineering, Johns Hopkins University, 1895; Ph. D., Johns Hopkins University, 1897; Teacher of Mathematics, Dickinson Seminary, Williamsport, Pa., 1890-1892; Teacher of Higher Mathematics and Mechanical Drawing, Collegiate Department of Adelphi Academy, Brooklyn, N. Y., 1892-1893; Student-Instructor, Electrical Engineering Department of Johns Hopkins University, 1894-1897; Instructor in Electrical Engineering, Union College, 1897-1898; Teacher of Physics, Eastern High School, Washington, D. C., 1898-1900; Instructor in Electrical Science, Rutgers College, 1901-1903; Professor of Physics and Electrical Engineering, Clarkson School of Technology, 1903-1908; Professor of Electrical Engineering, Clarkson School of Technology, 1908-1909; Inspector of Torpedo Cable for U S. Army, summer of 1898; Electrical Engineer for Rowland Telegraphic Company, Baltimore, Md., 1900-1901; present position since 1909.

*** NOLA K. FROMME, B. S., Assistant Principal, School of Agriculture.**

B. S. in Domestic Science, Ohio State University, 1905; Instructor in Home Economics, South Dakota State College of Agriculture and Mechanic Arts, 1907-1909; present position since 1909.

HARRY C. SEVERIN, B. A., M. A., Professor of Entomology and Nature Study.

B A., University of Wisconsin, 1906; M. A., Ohio University, 1908; Fellowship in Zoology and Entomology, Ohio State University, 1908-1909; Assistant to State Entomoligist, Illinois, summer of 1909; present position since 1909.

ROBERTSON COOK, M. E., Professor of Experimental Engineering.

M. E., University of Minnesota, 1902; Assistant Instructor in Mechanical Engineering, University of Minnesota, 1903; Engineer with Oliver Iron Mining Company, Duluth, Minnesota, 1904; Mechanical Engineer for the Western Lime and Cement Company, Milwaukee, Wisconsin, 1904-1908; Instructor in Mechanical and Steam Engineering, 1908-1910; present position since 1910.

SHIRLEY PUTNAM MILLER, B. S., M. A., Professor of Zoology.

B. S., South Dakota State College, 1903; M. A., University of Minnesota, 1905; Student at Minnesota Sea-side Laboratory, Vancouver Island, 1902-1904; Instructor in Zoology, South Dakota State College, 1905-1908; Student at the Anatomical-Biological Institute, Berlin, and the University of Munich, 1908-1910; Investigator in Russian Zoological Laboratory, Villafranche, on the Mediterranean; present position since 1910.

GEORGE ARTHUR STARRING, A. B., Professor of Commercial Science.

A. B., Huron College, 1907; Graduate Huron Business College; Rochester Seminary, N. Y., 1907-1908; student, University of Chicago, 1908-1909; Summer Quarter, University of Chicago, 1909; Instructor in Commerce and Economics, Sioux City High School, 1909-1910; present position since 1910.

EDMUND SERENO ENDER, Professor of Music.

Graduate Music Department, Yale University, 1903; Post Graduate, Institute of Musical Art, New York City, 1905; pupil of Franz Grunicke, Berlin, and other European Masters; present position since 1910.

MARY TOUGH, Professor of Home Economics.

Graduate Normal Domestic Science Department of Pratt Institute, 1898; Instructor in Domestic Science and Art in Chicago University School of Education, 1898-1901; Instructor in Normal Domestic Science Department in Pratt Institute, 1901-1910; present position since 1910.

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* On leave of absence during the year 1911-1912.

PHILIP B. PEYTON, First Lieutenant U. S. Army, Professor of Military Science and Tactics.

B. S., Virginia Military Institute, 1901; Assistant Professor of Mathematics and Tactics, Virginia Military Institute, 1901-1903; Second Lieutenant U. S. A., 1904; Philippine Islands, 1905-1907; Professor of Military Science and Tactics, Drury College, Springfield, Missouri, 1909-1911; First Lieutenant, U. S. A., 1911; present position since 1911.

ALBERT NASH HUME, B. S. A., M. S., Ph. D., Professor of Agronomy.

Graduate Plymouth, Indiana, High School; B. S. A., Purdue University, 1900; M. S., Purdue University, 1902; Live Stock Husbandman, North Louisiana Experiment Station; Instructor in Agriculture, Wenona Agricultural Institute, 1903; Instructor, Associate, Assistant Professor of Crop Production, University of Illinois and Agricultural Experiment Station, 1904-1911; student Leipzig, Germany, winter semester, 1908-1909; student Goettingen, Germany, summer semester, 1909 to winter semester, 1910; Ph. D., Goettingen, December, 1910; present position since 1911.

JOSEPH GLADDEN HUTTON, S. B., M. S., Associate Professor of Agronomy.

Graduate of Indiana State Normal School, Terre Haute, 1899; S. B., University of Chicago, 1908; M. S., University of Illinois, 1910. Teacher in Indiana District Schools, 1891-1895; Assistant in Biological Laboratory, Indiana State Normal School, 1898-9; Instructor in Physiology, Indiana State Normal School, 1899-1900; Curator's Assistant, Marine Biological Laboratory, Wood's Hole, Mass., Summer, 1901; Principal of Beardstown (Ill.) High School, 1901-1903; Superintendent of Schools, Beardstown (Ill.), 1903-1908; Instructor in Psychology, Indiana State Normal School, Summer, 1908; Assistant in Geology and Graduate Student in Botany, Geology, and Soils, University of Illinois, 1908-1911; Field Assistant, Illinois State Geological Survey, Summer, 1909; present position since 1911.

LOLA M. CONDIT, Professor of Modern Languages.

Ph. B. University of Wooster, 1900; M. A., University of Wooster, 1907; Instructor in German and English, Salt Lake Collegiate Institute, 1900-1902; Instructor and Assistant Professor of German, Coe College, Cedar Rapids, Iowa, 1908-1911; student under Dr. Thiergen of Royal Cadet College, Dresden, Germany, and in Berlin, 1903; University of Chicago, Summer quarter, 1904; Universities of Berlin and Leipzig, 1906-1907; student under Professors of Alliance Francaise, Paris, Summer, 1911; present position since 1911.

Instructors and Assistants

HOWARD H. HOY, B. S., M. S., Instructor in Physics and Electrical Engineering.

B. S., South Dakota Agricultural College, 1896; M. S., South Dakota Agricultural College, 1903; pursued special work in electrical engineering in the Universities of Nebraska and Wisconsin; Instructor in Mechanical and Electrical Engineering, South Dakota Agricultural College, 1899-1904; present position since 1904.

MAUD GODDARD, Instructor in Industrial Art.

Student Art Institute, Chicago, 1903; Student Summer Course, School of Fine Arts, Minneapolis, 1907; Student Chautauqua Summer School, N. Y., 1909; Student Commonwealth Art School, Maine, Summer of 1910; present position since 1903.

CARL CHRISTENSEN, Instructor in Violin and Other Instruments.

Student under Professor Christian Madsen, of Copenhagen, Denmark; also studied with C. F. Toenniges, of Davenpart, Iowa, 1900-1901; and with Alfred Speil, Minneapolis, 1908-1909; present position since 1906.

***CARRIE Louise PHILLIPS, B. S., M. S., Assistant Librarian.**

B. S., South Dakota Agricultural College, 1901; M S., South Dakota Agricultural College, 1905; obtained library certificate from Wisconsin Library School at Madison, Summer session, 1907; present position since 1906.

GERTRUDE S. YOUNG, A. B., Instructor in Preparatory Department.

A. B., University of Wisconsin, 1906; present position since 1907.

AMY KELLY, B. S., Assistant Principal of School of Agriculture.

B. S., South Dakota State College, 1908; graduate work at Illinois University, 1908-1909; Dietitian at Passarant Hospital, Jacksonville, Ill., June to November, 1909; present position since 1909.

BENJAMIN LEE THOMPSON, B. Sc., Instructor in Animal Husbandry.

B. Sc. in Agriculture, Ohio State University, 1908; Professor in Animal Husbandry and Dairying, Dunn County School of Agriculture, Menominee, Wis., 1908-1909; present position since 1909.

JOHNSON SARVIS, B. S., Instructor in Botany.

B. S., South Dakota State College, 1909; present position since 1909.

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*Resigned, March, 1912.

***WILLIAM WHITE, B. S. A., Instructor in Dairy Husbandry.**

B. S A., University of Minnesota, 1908; Student-Instructor in Farm Dairying, University of Minnesota, 1906-1907; Special Student in Dairy Husbandry, University of Wisconsin, 1907-1908; Buttermaker for Spring Lake Butter and Cheese Co., Spring Lake, Wis., 1908; Buttermaker and Manager of Milk and Butter Department of Calumet Dairy Co., Chilton, Wis., 1909; present position since January, 1910.

HALLIE HYDE, B. S., B. A., Instructor in Preparatory Department, and Assistant in Domestic Science.

B. S., South Dakota State College, 1908; B. A. in Domestic Science, University of Illinois, 1910; present position since 1910.

DEXTER E. BAILEY, Assistant in Dairy Husbandry.

B. S., Massachusetts Agricultural College, 1910; present position since July 1910.

JOHN A. BONELL, Instructor in Shopwork.

Stout Institute, 1904; State Normal School, Oshkosh, Wis., Summer 1905; Assistant and Instructor in Farm Mechanics, Marathon County School of Agriculture, Wausau, Wis., 1905-1910; Stout Institute, summer 1910; present position since 1910.

HOWARD LOOMIS, A. B., Assistant in Agronomy.

A. B., Albion College, 1909; Instructor Chemistry and Physics, Union City, Ind., High School, 1909-1910; present position since 1910.

****C. M. WOODWORTH, B. S., Assistant in Agronomy.**

B. S., A. & M. College of Oklahoma, 1910; present position since July, 1910.

GUY E. YOUNGBERG, Assistant in Chemistry.

B. S., 1906; Ph. G., 1908, and M. S., 1909, South Dakota State College; present position since 1910.

H. HOWARD BIGGAR, B. S., Assistant in Agronomy.

B. S., South Dakota State College, 1910; present position since July, 1910.

B. A. DUNBAR, Assistant Professor of Chemistry.

A. B., Ohio Wesleyan University, 1891; A. M., Ohio Wesleyan University, 1892; Instructor in Mathematics and Physics, Hillsboro Normal College, Hillsboro, Ohio, 1891-1893; Instructor in Physics, High School, Ironton, Ohio, 1893-1895; Supt. of Schools, Michigan, Wyoming, Minnesota and North Dakota, 1895-1910; Student in Chemistry, University of Chicago, 1909-1910; present position since January 1911.

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*Resigned, March, 1912.

**Resigned, May, 1912.

CLIFFORD D. JOHNSON, Assistant in Dairy Husbandry.

B. S., South Dakota State College, 1911; present position since July, 1911.

THOMAS BURT KELLY, B. S., Assistant in Veterinary Medicine.

B. S., South Dakota State College, 1910; student assistant in Veterinary Laboratory, 1908-1910; present position since 1910.

ETHEL MAY CATHCART, Instructor in Voice.

Graduate of Nebraska University School of Music, 1911; practical experience in teaching music, public and private; two seasons in concert work; present position since 1911.

JAMES TEMPLE, Assistant in Physical Culture.

Trainer of football team, University of Minnesota, 1896; Athletic trainer, University of Wisconsin and Chicago Athletic Club, 1897-1900; Trainer of spring track work and base ball, S. D. S. C., 1901-1904; Football trainer, U. S. Military Academy, West Point, N. Y., 1904-1911; in charge of all outdoor athletics, U. S. Military Academy, West Point, 1910-1911; present position since 1911.

ADA B. ERWIN, B. S., Instructor in Home Economics.

B. S., South Dakota State College, 1909; student Teachers' College, Columbia University, New York, Summer session, 1911; present position since September, 1911.

****FRED HURSH JOHNSON, Instructor in the School of Agriculture.**

B. S. (Sanitary Engineering), Penna. State College, 1911; present position since 1911.

HAROLD M. CROTHERS, Assistant in Mathematics.

B. S. South Dakota State College, 1910; student of Electrical Engineering University of Wisconsin, 1910-1811; present position since 1911.

***FLORENCE E. WEST, B. S., Assistant in the School of Agriculture.**

B. S., South Dakota State College, 1910; student of Electrical Engineering, University of Wisconsin, 1910-11; present position since 1911.

MANLEY CHAMPLIN, B. S., Assistant in Agronomy.

B. S. South Dakota State College, 1909; Special Agent, 1909; Scientific Assistant, 1910; Collaborator, 1911, United States Department of Agriculture; present position since July, 1911.

MOGENS R. TOLSTRUP, B. S., Assistant in Dairy Husbandry.

Student in the Royal Agricultural College, Copenhagen, Denmark 1904-1905; B. S. (in Dairying), Iowa State College, 1911; present position since July 1, 1911.

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*Resigned February, 1912.

**Resigned.

MURIEL SHERWIN, B. S., Assistant in School of Agriculture.

B. S., South Dakota State College, 1911; present position since November, 1911.

CHAS. F. SCHLATTER, Instructor in Commercial Science.

B. S., Southern Iowa Normal, 1902; Instructor in Mathematics, Southern Iowa Normal, 1904-5; Instructor in Pedagogy, Southern Iowa Normal, Summer Quarter, 1905; Graduate Gem City Business College, 1906; student Drake University, Summer Quarters, 1909 and 1910; Superintendent of Schools, Dunlap, Illinois, 1906-7, 1907-8, and 1908-9; Instructor in Commerce, Sioux City High School, 1909-10; Principal Department of Commerce, La Salle-Peru Township High School, La Salle, Illinois, 1910-11; present position since 1911.

Other Officers and Employees

R. A. Larson	Secretary
Winifred Van Husen	Registrar
Nina A. Waters	Matron of Dormitory
Mrs. J. W. Bashford	Adviser of Women

	Secretary to the President
M. M. Johnson	Station Stenographer
George E. Purdy	Janitor and Carpenter
A. T. Larson	Engineer
Fred C. Stoltenberg	Florist

Faculty Committees 1910-11

Classification	Brown, Whitehead, Moore, Bates, Starring, Forsee
Deportment	Harding, Mathews, Powers, Wilson, Brown, Moore, Larsen
Absence and Tardiness (College)	Whitehead, Derr, Olive, Hutton, Cook
Absence and Tardiness (Prep.)	Forsee, Mathews, Schlatter
Athletics	Mathews, Larsen, Johnson
Library	Powers, Hume, Brackett
Social Affairs	Miller, Peyton, Hansen, Miss Tough
Religious Affairs	Rodeheaver, Miss Caldwell, Brackett
Student Organizations and Publications	Miller, Bates, Harding
Electoral College, Students' Association	Harding, Severin, Ender
Board of Control, Students' Association	Brown, Rodeheaver, Johnson

Members of Station Council

T. W. Dwight	Member Regents' Committee for the College
A. M. Anderson	Member Regents' Committee for the College
Robert L. Slagle	President of the College
James W. Wilson	Director and Animal Husbandman
Niels E. Hansen	Vice Director and Horticulturist
James H. Shepard	Chemist
Edward L. Moore	Veterinarian
Edgar W. Olive	Botanist
Christian Larsen	Dairy Husbandman
Albert N. Hume	Agronomist

GENERAL INFORMATION

A==Historical

1. ESTABLISHMENT. An act of the Territorial Legislature approved February 21, 1881, provided that "an Agricultural College for the Territory of Dakota be established at Brookings, * * * * * provided that a tract of land not less than eighty acres be secured and donated to the territory of Dakota."

The legislature of 1883 provided for the erection of the first building. This building, now known as the Central Building, was opened for use September 24, 1884.

The Enabling Act, admitting the state of South Dakota, approved February 22, 1889, provided that 120,000 acres of land be granted for the use and support of the agricultural college, as provided in the acts of congress making donations of lands for such purpose. The acts of congress here referred to are, primarily, the act of July 2, 1862, known as the Morrill Act, providing that 30,000 acres of public land for each representative in congress be given to each state towards "the endowment, support, and maintenance of at least one college, where the leading object shall be, without excluding scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts."

By the Enabling Act of 1889 Congress granted to South Dakota for the Agricultural College 40,000 additional acres, in lieu of a grant that had been made to new states in 1841. Thus the total land grant for the Agricultural College was 160,000.

2. THE NAME. In the Morrill Act of 1862, such colleges were spoken of as "Colleges of Agriculture and Mechanic Arts." In order that the name might more nearly conform to the object for which the College was established, the legislature of 1907 changed the name from "The Agricultural College of South Dakota," to "The State College of Agriculture and Mechanic Arts."

3. SOURCES OF INCOME. A joint resolution passed by the legislature of 1890 accepted the lands granted in the enabling act. These lands were not at once assigned. The Commissioner of Public Lands reported that 64,658 acres had been selected. All have since been selected; very few have been sold. A small amount is received yearly as rental. The first income recorded was $1,197.71, Sept. 1, 1896. As no school lands may be sold for less than ten dollars an acre, these lands, when sold, will probably yield an endowment of two million dollars, the interest from which will probably be sufficient for the needs of the college.

The Morrill Act passed by Congress in 1890 provides a yearly appropriation for "the more complete endowment and support of colleges for the benefit of agriculture and mechanic arts." Under this act the College now receives from the general government the sum of $25,000 per annum.

An act making appropriation for the Department of Agriculture, approved March 4, 1907, provides for the further endowment and support of these colleges. The bill, which was introduced by Senator Knute Nelson of Minnesota, stipulates that the expenditure of the fund shall be governed in all respects by the provisions of the Morrill Act, and also that a portion of the money may be used to provide for the training of instructors in agriculture and mechanic arts. This act made an appropriation of $5,000 for the year 1907-1908, which is increased $5,000 each year until it reaches $25,000 per annum.

The College also receives aid from the State, biennial appropriations being made by the legislature for maintenance and buildings. The legislature of 1911 appropriated $50,500 for maintenance during each of the next two years, and $104,000 for building purposes.

4. LOCATION. The College is located upon an eminence one mile from the business center of Brookings, which has a population of about three thousand five hundred people. The city is situated on the Central Dakota Division of the Chicago and North-Western Railway, the Watertown branch making connection with the main line at this point.

Brookings is almost an ideal college town. It is lighted by electricity and has a complete water and sewer system. Its streets are lined with trees and its houses have well kept lawns abounding in ornamental shrubs and plants.

It is a city of clean morals. No saloon has been allowed within its limits for years; and the last few times when the question of allowing saloons within the city has been submitted to a vote of the people, it has been defeated by overwhelming majorities

5. PURPOSE. The College is devoted to advancing the interests of practical education, its purpose being to give men and women such training as will best fit them for the active duties of life. Although the work of the institution is largely scientific, it is of such diversified character that the student may pursue studies along almost any line which his tastes dictate. A constant effort is made to reach the masses of the people in the state and interest them in the application of science to industrial pursuits and in the more general improvement of their home life and every day activities.

6. EXPERIMENT STATION. This department was organized under the Hatch Act of Congress which provided for the establishment of agricultural experiment stations in connection with agricultural colleges. These stations were established for the purpose of conducting experiments and research work in connection with all branches of the agricultural industries of the United States, due regard being paid to the varying conditions and needs of the respective states. It is also their object to aid in diffusing among the people useful and practical information on all subjects connected with agriculture.

The South Dakota Station conducts its investigations chiefly along the following lines: live stock, soils, field experiments, greenhouse work, trees and small fruits, chemistry of plant growth and foods, economic botany, entomology and zoology.

The Hatch Act provided that the experiment stations should each receive $15,000 annually from the National Government. This amount has been increased by the provisions of the Adams Act of 1906, so that the experiment station now receives $30,000 a year for maintenance.

B==Equipment

1. COLLEGE BUILDINGS AND GROUNDS. The college campus upon and about which the college buildings are placed is beautifully located on an eminence within the corporate limits of Brookings. It is ornamented with choice and tasteful varieties of trees and shrubs and laid out with necessary walks and drives. Adjoining on the rear are the horticultural gardens, and to the north and northwest is the college farm.

The Central Building, the oldest building on the campus, is a three story brick structure, and was completed in 1885. It is used for offices, class rooms, and the library.

The Station Building, also a three story building, is occu-
station.
pied principally by laboratories and offices of the experiment

The North Building is a four story brick building, the first floor of which is used as an assembly room, and the upper floors by the departments of art and domestic science.

The Physics—Engineering Building is occupied by the physics and the engineering departments with their various class rooms, laboratories and shops.

The Plant Breeding Building, together with the large Greenhouse, furnishes room for the work that is being conducted by the departments of botany and horticulture.

The Chemistry—Pharmacy Building, a two story structure, is occupied by the class rooms and laboratories of those departments, and the Annex, a large addition which has recently been made to it, furnishes quarters for the School of Agriculture.

The Creamery is a two story building which was almost doubled in size in 1911 by an addition which was made to meet the growing demands upon this department.

The Gymnasium is a two story building that is used for athletic exercises and military drill during the season when such work cannot be carried on outdoors. In connection with the Gymnasium a tract of land near the campus has been fitted up for outdoor exercises and sports.

Wenona Hall, a splendid brick dormitory for young ladies, stands on a site just across the street from the campus.

The central heating and electric light plant occupies a brick structure in the rear of the campus. The buildings are all heated by steam and lighted by electricity generated in this plant.

Near the campus on the adjoining college farm are located the agricultural barn and the dairy barn, together with a number of smaller buildings which are devoted to agricultural purposes.

The State Legislature at its last session appropriated $100,000 for an agricultural hall, which is to be built during the summer of 1912.

2. FARM AND HORTICULTURAL GARDENS. The college farm includes four hundred and sixty acres, about sixty acres of which are used by the Agricultural Experiment Station as an experimental farm. Here the field experiments with field crops, seed germination and soil preparation are conducted, and the student can witness and actually participate in this scientific work. The remainder of the farm is used as a model stock and dairy farm under the direction of the professor of animal husbandry. Practical work and experiments involving the best farming practices for this region are given the students.

The Horticultural Gardens comprise about fifty acres adjoining the campus. Here and in the Greenhouse a large amount of work in fruit propagation and plant experimentation is being carried on.

3. LABORATORIES, SHOPS AND MUSEUMS. Well fitted laboratories and shops have been provided in all those departments where their use is made necessary by modern educational methods. The value of illustrative materials has been recognized, and numerous departments have made large collections or museums. The equipment of the various departments is described in connection with their work.

4. LIBRARY AND READING ROOM. The library, occupying rooms on the first floor of the Central Building, contains over 12,500 bound volumes and about 6,000 pamphlets· The institution is a repository for the government and contains a set of government publications dating from 1886. Many of the more valuable sets have been extended to an earlier date. Care has

been exercised in the selection of books, in order that each department may have proper reference books at the disposal of the students. The books are arranged according to the Dewey system of classification and are completely catalogued in the card catalogue. The library also receives the cards from the government, cataloguing the bulletins of the experiment stations and the publications of the United States Department of Agriculture. The files of many standard scientific and literary periodicals are kept bound. The reading room is abundantly supplied with current periodicals and newspapers. The library is open nearly all the time, day and evening, and at the disposal of students for the purpose of study and reading. Someone is in charge at all times to give help and information to those using the library.

5. POSTAL FACILITIES. The College furnishes first-class postal facilities, the mail of the students being delivered in one of the buildings at convenient times during the day, making it unnecessary for them to walk to the city postoffice.

C--Administration

1. GOVERNING BOARD. By an act of the legislature approved March 10, 1897 provision was made for the appointment of the Regents of Education, who have charge of all of the educational institutions which are maintained either wholly or in part by the state. The terms of office of the regents are each six years, and expire at different times, so that the board is a continuous body. Appointments to the board are made by the Governor, with the approval of the senate, "of persons of probity and wisdom from among the best and best known citizens, residents of different portions of the state, none of whom shall reside in the counties in which any of the state educational institutions are located, who shall be designated as the Regents of Education."

Among the powers and duties of the regents as defined by law some important ones are, to employ members of the different faculties and other agents, to determine the proper number of teachers in said faculties, also their compensation and terms of employment, to establish departments, to settle upon courses of study, to determine the rules to be enacted for the government of students, to decide upon text books to be used, to fix tuition fees, to guard against unwise duplication of departments, to confer degrees, to control the Agricultural Experiment Station, and to promote education among the farmers by providing for institutes; in fact, to make all regulations as to the executive and instructional functions of the educational institutions of the state. The regents govern the College largely through a regents' committee.

2. FACULTY. The faculty, consisting of the president and professors, all of whom are elected by the regents, determines in large part the general policy of the College. The professors are heads of the different departments of instruction which they represent and are responsible to the president, who is in charge of all matters of administration. The president, in turn, is responsible to the regents for the whole work of the institution. In order to aid the president in his executive duties, he appoints, at the beginning of each college year, certain faculty committees which take up such work as may be assigned them by the president and faculty, and thus greatly facilitate the transaction of business and economize the time of the faculty.

3. STUDENTS' AFFAIRS. While the students are allowed wide latitude in carrying on affairs which vitally concern themselves, such as athletic, literary, musical, social and other activities, the faculty retains an advisory interest in all such matters, and has the right at any time to pass reasonable regulations for the welfare of the college. No set rules are expected to cover every condition that arises, but all students should recognize the importance of co-operation with the faculty in their efforts to make college life helpful to the student body as a whole.

The faculty has the right to pass upon the living arrangements of nonresident students. Residents of the town with whom students are boarding or lodging are requested to cooperate with the faculty in the effort to improve the general condition of the students. Upon coming to Brookings students should report at once at the president's office, where they will be furnished all possible information with reference to living arrangements.

D==Special Information for Students

1. TIME TO ENTER. Students are admitted at any time and assigned to such classes as they are found best fitted to enter, but it is much better to commence at the beginning of the college year. No reduction in college fees is made when the student enters after the beginning of the term, and if a student enters later he will not under any condition be allowed to hold a class back. If a tardy beginning is imperative the student must arrange for assistance in bringing up his work, in order that he may go on understandingly and without hindrance to the class.

2. TERMS AND VACATIONS. The college year in divided into two semesters. The principal vacation of the year occurs in the summer, from the early part of June until the middle of September. College exercises are suspended in time for students to reach home before Christmas day, the holiday recess extending over about two weeks. A spring vacation of one week is also given about the middle of the second semester. For the calendar of the college year see page 3.

3. EXPENSES OF STUDENTS. The tuition for regular work extending throughout the college year is six dollars per semester, or twelve dollars per year. For information concerning tuition fees for work that is not arranged according to semesters, see the respective courses. A student who enrolls must pay the full tuition for the semester or term. A laboratory fee of two dollars per semester is charged for the use of each laboratory in which the student takes work. Books and other supplies are furnished by the student.

Special fees are charged for instruction in music in the college. (See the department of music.)

By action of the regents the tuition and incidental fees and laboratory fees, after having been paid, will in no case be refunded; but music, dormitory and other fees may be refunded at the discretion of the president of the College, if the student is called away before the end of the term or semester by unavoidable causes.

Good rooms and board can be obtained at private houses. A boarding club conducted in connection with the college furnishes board to the young men at a low cost, and the dormitory provides a large number of the young ladies with comfortable homes at reasonable rates (see the following page for dormitory regulations).

An estimate of the yearly expenses of a student is as follows:

Board and Room	$180.00
Tuition	12.00
Fees in Student Association	6.00
Laboratory fees	10.00
Books and Supplies	25.00
Laundry Expenses	20.00
Incidentals	25.00
	$278.00

Men students are expected to purchase military uniforms which range in cost from $12.00 to $18.00.

While the above is considered as a reasonable estimate, many students go through the year on a much less amount. Much depends upon the character of the student and the work he is taking.

Every effort is made by the officers of the institution to secure suitable and satisfactory boarding places for students. A list of approved available places for boarding or rooming can be obtained at any time from the president of the College. The Christian Associations make it a point at all times to assist new students in finding proper living accommodations. If prospective students will write to the Young Men's or Young Women's Christian Association of the College, officers of these organizations will be glad to arrange to meet them at the train and help them to secure boarding and rooming places.

4. DORMITORY. This building is 120 by 50 feet in dimensions and three stories in height. In addition to the preceptress

and other lady teachers, the matron and servants, it will provide a home for sixty woment students.

Besides the general parlors and reception hall on the first floor, the second floor contains a general sitting room, while on the third floor is a recreation hall suitable for parties and plays which are attended by girls only. Two bath rooms, toilet rooms and lavatories are also on each floor. In addition, each room is provided with a large closet, and a stationary wash stand with hot and cold water.

Precautions have been taken to reduce danger from fire to a minimum. The building is heated by steam, lighted by electricity, and in every respect has the latest improvements and conveniences.

Each room is provided with two single cots or beds with mattress and pillow, two straight chairs, study table, dresser with mirror, rug and window shades. Bedding, towels and other articles must be provided by the students. Each girl should provide herself with mattress pad, two pairs of pillow cases, three sheets, two pairs of blankets, napkin ring, six towels and a clothes bag.

The basement is provided with a large dining room, kitchen, store rooms, laundry and rooms for the help. Here a boarding club is conducted under the supervision of an experienced matron. Every effort is made to provide wholesome fare at minimum cost to the students. The cost of table board during the last two years has been less than $3.00 a week. The club is conducted on the co-operative plan. Payment for board at the rate of $3·00 per week must be made for four weeks in advance, and at the end of the year any unexpended money will be returned to the students. No deduction for board will be made for less than a week's absence.

Occupants of the building will be entitled to the laundering of a limited number of articles without extra cost.

The cost of rooms in the hall varies from $12 on the third floor to $14 on the first floor per semester for each occupant, two in a room. This fee includes both light and heat. The room rent is payable in advance. It is expected that two young women will occupy a room. The occupants will be expected to take care of their own room.

A student desiring room reserved for her must forward $2.00 with her application. This will apply on the regular room rent for the semester. In no case will this advance payment be refunded.

5. STUDENT LABOR. There is a limited amount of paid labor about the institution which can be done by students and it is the policy of the college authorities to give as much work to deserving students as is consistent with the best interests of all. However, no one should expect to earn his entire expenses while at college and doing school work, or be assured of an income in advance from paid labor.

6. SCHOLARSHIPS. The following article from the law, defining powers and duties of the regents of education, is self-explanatory: "The Regents of Education shall fix all rates of tuition and other fees to be paid by students, but such rates must be the same in all different institutions. They may receive free of tuition two students appointed by each senator and one by each representative of the state legislature in any one of the institutions under their control, provided that the period for which appointment is made shall expire with the term of office of said senator or representative, and provided that such appointees shall comply with all the rules and requirements of the institution which they desire to enter. No student, however, shall receive any other gratuity whatever." The regents of education make this article operative in the case of this institution.

7. MILITARY REQUIREMENTS. The national law organizing and endowing these agricultural colleges requires that military science shall form part of the instruction offered. All male students taking regular work in the college are required to do certain work in this department, unless excused because of physical disability or some other grave reason. Certificates of disability should be obtained from the physician whom the College authorities have designated for such work, the College bearing the expense of the examination. For further regulations governing this work see the military department.

8. CHAPEL EXERCISES. Devotional exercises, to which all members of the college are cordially invited, are held at appointed times during the week. Chapel attendance is required of all students on Tuesdays, as on these days important announcements are made and addresses upon topics of general interest, often by visitors, are given.

9. THE STUDENT ASSOCIATION. The athletic, debating and oratorical interests and the college paper, the Collegian, are under the control of the Student Association which governs these activities by means of a board of control, consisting of students and members of the faculty. This board is organized into the Athletic, the Collegian, and the Debating Councils, each of which directs the respective interests that come under it. A fee of three dollars a semester, or proportional sums for students whose work is arranged in terms shorter than the semester, is charged for membership which admits the holder to all student exercises under the supervision of the association and pays for a subscription to the Collegian.

10. ATHLETICS. Under the auspices of the local organization and a number of college athletic associations of the state, all kinds of athletic sports are practiced and encouraged. The local representatives contest at the "State Meet" once a year for athletic honors. Students should understand, however, that their studies must receive the first consideration; and that the purpose of athletic exercise is to develop gentlemanly and ladylike qualities in those who participate in them.

11. ORATORY AND DEBATING. Each year for a number of years representatives of the college have met students from other institutions in debating contests. The members of the local teams are chosen in a series of preliminary contests in which all are encouraged to take part· There has thus been aroused among the student body a large interest in this kind of work and a healthy rivalry to obtain places on the intercollegiate teams.

Credit for three hours work during one semester is given those who take part in an intercollegiate debate.

A representative of the college is sent each year to the intercollegiate oratorical contest of the state. This student is selected by means of a local preliminary contest. In order that this contestant may fully represent the college, the faculty has imposed the requirement that those competing for this honor must be pursuing regular work for the Bachelor's degree.

12. STUDENT PUBLICATIONS. "The Industral Collegian is a weekly paper published by the students of the college. It is intended to be a mirror of student life at this institution, and all phases of college activity have representatives on its staff of editors.

"The Jack Rabbit" is published annually by the junior class, and is a good representative and exponent of college life.

13. LITERARY SOCIETIES. The literary society is an important factor in the education of the student and all are strongly advised to take part in this kind of work· All preparatory students are expected to become members of the Franklin Society whose work is carried on under the supervision of the preparatory department, and is a preparation for the college societies. The faculty and various citizens, recognizing the value of such work, have offered several trophies to be competed for by the Athenian and Miltonian Societies, which are composed of students of collegiate standing.

14· CHRISTIAN ASSOCIATIONS. In the state schools the Young Men's and Young Women's Christian Associations occupy unique positions. They are the only organizations whose primary object is the moral development of the student body. Their platforms are broad enough to allow every student who stands for cleanness and kindness to affiliate himself or herself with them. The purpose of the associations is to present the value of Christian living to the student and to the state, and to create an atmosphere of good-fellowship among the members of the student body. The Young Men's Christian Association is personally supervised by a secretary who is engaged to spend a large part of his time at the South Dakota State College. The Young Women's Christian Association is supervised by the state and international college secretaries.

15. OTHER ORGANIZATIONS. Among these may be men-

tioned the Art Club which encourages interest in art by bringing exhibits from a distance and by giving annually a costume party in which historic and literary characters are represented; the Glee Club, which makes an annual tour over the state; the Dramatic Club, which makes a study of some of the best literature of this kind, and presents a play each year; and the Agricultural Club, the Pharmacy Club and others.

16. GENERAL CONDITIONS OF ADMISSION. The candidate for admission to the College must be at least fourteen years of age and of good moral character. Students applying for entrance to the preparatory department must present evidence that they have completed the work of the public schools as far as the ninth grade, and no one is allowed to pursue the work of the freshman year or higher work until grades in the preparatory years have been obtained.

17. TIME OF ENTRANCE EXAMINATIONS. The first two days of the first semester will be devoted to examining students applying for admission, both to the College and the preparatory department.

18. ENTRANCE CONDITIONS. A student may be admitted to a college class without having passed in one or two of his entrance studies. These shall stand against him and must be cleared up within one year after entrance or the student will be required to take the subjects with the regular classes.

19. ADMISSION FROM OTHER INSTITUTIONS. Students will be admitted to the College upon certificates from other reputable institutions, provided that these show that the students were honorably dismissed from those institutions, and have satisfactorily completed the work for which credit is asked. Standings from other institutions should be presented at the College when the student applies for entrance. The College reserves the right, however, to cancel grades accepted from other schools should the student be found deficient in the subjects for which credit is given.

20. SPECIAL STUDENTS. Students of mature years who have passed in the work of the preparatory department may be allowed to pursue special studies if not candidates for a degree,

but they must satisfy the faculty that they are qualified to take up the studies desired.

21. SUBJECT DEFINED. A full subject is one which requires five periods of lecture, recitation or laboratory work per week. The lecture and recitation periods are each one hour, the laboratory periods two hours in length. The nature of a study and the number of periods per week are indicated by the small letters *a* and *b* together with numbers, written immediately after the name, *a* signifying lecture or recitation work, *b*, laboratory work.

22. METHOD OF REGISTRATION. New students should first present their standings from the public schools or other educational institutions to the committee on entrance requirements who will assign them to the proper classes. The student should then obtain a classification card in the registrar's office upon which is written the names of the subjects to be pursued, according to the rules governing classification. The classification committee of the faculty will furnish all possible assistance in classifying students. New students must also fill out and file with the registrar cards giving desired information concerning themselves. Upon receipt of the fees for the term, the secretary of the college stamps the classification card, which is then to be presented to the different instructors under whom work is to be taken for their signatures, and in order that they may also enroll the student in their classes. This card should then be returned to the registrar.

When a student is enrolled in a subject he is expected to attend all the recitations and other appointments in that subject unless he is excused by the classifying officer and has the subject removed from his card.

No student will be allowed to classify for more than twenty hours' work unless an average standing of 85 has been maintained in the work of the preceding semester, nor for less than fourteen hours' work without special permission from the Classification Committee.

23. GRADES. All grades are reported to the registrar in numbers on the scale of 100 as perfect. Grades are reported to students in classes as follows: Class "A," representing grades

between 90 and 100. Class "B" from 80 to 90. Class "C" from 70 to 80. Classes "D" and "F" for all grades below 70. Students having a term grade of "A" may not be required to take final examinations with their classes. Grade "D" indicates that the student is conditioned, and may make up the work under a tutor, providing that this is done before the subject is again offered. "F" indicates that the subject in question must be repeated with a regular class before a passing grade is obtained.

In determining a final grade ordinarily twice the recitation grade is added to the final examination grade and one third of the sum is the final grade. Large latitude is given the teacher, especially in the more advanced work, in the determination of the students' final grades.

24. CONDITIONED STUDENTS. Any student who without good reason has failed to receive a passing grade in at least fourteen hours' work will be registered only conditionally for further work. And if any student at any time is not carrying the work in which he is classified at a passing grade, or fails to perform other duties which may be expected of him, he may be placed upon the conditioned list and thus debarred from certain student privileges.

25. ATTENDANCE AND DISMISSAL· Students are expected to attend regularly all the exercises of the classes to which they are assigned. When a student finds it necessary to be absent he should get an excuse in advance, if possible. Otherwise he should present an excuse to the committee having this matter in charge at the time and place they may designate. Excuses will be granted only when the absence seems necessary, and such penalties will be imposed upon students for unexcused absences as the faculty may deem proper. Should a student find it necessary to be late to his class he should make a satisfactory explanation to his instructor at the close of the period.

All work that is omitted because of absences must be made up as the instructor may direct.

26· DEGREES. The courses of study leading to degrees given by the College are outlined on the following pages and are as follows:

The two year Pharmacy course leading to the degree of Pharmacy Graduate, (Ph. G.).

The four year course in Agriculture, in which the student may elect work along the line of Animal Husbandry, Dairy Husbandry, Agronomy, Horticulture, Veterinary Medicine, Chemistry or Botany. Upon the completion of one of these schemes, under the direction of the head of the department in which the group of electives is chosen, the student will receive the degree of Bachelor of Science, (B. S.).

The courses in Mechanical, Electrical and Civil Engineering, each of four years, and leading to the degree of Bachelor of Science, (B. S.). In order to meet a constantly increasing demand for better equipped, and more thoroughly trained men along the several lines of engineering activities, an additional fifth year course of study is offered in the three engineering departments. Upon the completion of this additional year's work, the advanced degree, Mechanical Engineer, (M. E.), Electrical Engineer, (E. E.), or Civil Engineer, (C. E.), will be conferred. This work is nearly all prescribed and is a continuation of the work pursued in the undergraduate courses, and is intended more fully to equip the student with special training along the particular line of work which he desires to pursue after leaving college.

The advanced degree of Master of Science, (M.S.), will be conferred upon students who have completed the four-year undergraduate course in any of the above lines of study and an additional amount of work equal to ten five-hour subjects to be chosen along appropriate lines and in not more than two departments, in each of which credit for at least four collegiate five-hour subjects has already been obtained, the advanced work to be done as prescribed by the faculty. Six or more of the subjects, constituting the "major," must be chosen from one department. At least one year of this work must be done while in residence.

27. SPECIAL COURSES. The College also offers special courses in several important and practical lines of work. These are mentioned in connection with the departments principally concerned or in the description of the special short industrial courses, and are as follows:

Three year course in the School of Agriculture.

The two year normal course in home economics.

Two year course in pharmacy.

One year secretarial course in commerce department.

Five month course in steam engineering.

Three month creamery course.

Thirteen week course in domestic science.

Special automobile course of three weeks.

Special work in vocal and instrumental music.

Special work in art.

Two week course of lectures on poultry husbandry, corn judging and stock judging.

28. SCHEMES OF STUDY. The work leading to a Bachelor's degree may be done according to any one of the schemes mapped out on the following pages. Through these the work of the College is adapted to different classes of students. The entrance requirements to each of these is the work of the preparatory course. (See preparatory department).

The notation immediately after the name of a subject indicates its nature and the number of times it occurs a week, *a* referring to the class work, and *b* to the laboratory exercises. A department will not be required to give an elective unless at least five students are registered for the subject.

AGRICULTURE

FRESHMAN YEAR

First Semester—		
Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Elementary Chemistry, a & b 5	Chemistry	1
Stock Judging, a 4	Animal Husbandry	1
Plane Trigonometry, a 2	Mathematics	9
Military Tactics, 3		
Elective, a 4		
French, a 4	French	1
German, a 4	German	1
Second Semester—		
Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	2
Principles of Animal Breeding, a 3	Animal Husbandry	4

Surveying, b 2	Civil Engineering	2
Military Tactics, 3		
Elective, a 4		
French, a 4	French	2
German, a 4	German	2

SOPHOMORE YEAR

First Semester—

General Botany, a 2, b 3	Botany	1
General Horticulture, b 1	Horticulture	1
Farm Crops, a & b 5	Agronomy	1
Quantitative Chemistry, a & b 5	Chemistry	3
Military Tactics, 3		
Elective, a 4		
French, a 4	French	3
German, a 4	German	3

Second Semester—

General Botany, a 2, b 3	Botany	2
General Horticulture, b 1	Horticulture	2
Farm Dairying, a 2, b 1	Dairy Husbandry	1
Elements of Military Science, a 1	Military Science	1
Military Tactics, 3		
Elective, a & b 10		
French, a 4, or	French	4
German, a 4	German	4

And six hours to be selected from one of the groups.

JUNIOR YEAR

First Semester—

General Zoology, a 2, b 3	Zoology	2
Entomology, a & b 2	Entomology	3
Soils, a & b 5	Agronomy	4
Psychology, a 3	Philosophy	3
Elective, a & b 5		

To be selected from one of the groups.

Second Semester—

General Zoology, a 2, b 3	Zoology	3
Entomology, a & b 4	Entomology	4
Soils, a & b 5	Agronomy	5
Elective, a & b 6		

To be selected from one of the groups.

SENIOR YEAR

First Semester—

Geology, a 5	Agronomy	9
Economics, a 3	History	15
Elective, a & b 10		

To be selected from one of the groups.

Second Semester—

Genetics, a 3	Horticulture	7
Ethics, a 3	Philosophy	4
Elective, a & b 12		

To be selected from one of the groups.

Elective Groups of Agriculture Course

Animal Husbandry Group

SOPHOMORE YEAR

Second Semester—

Horse Shoeing, a 2	Veterinary	1
Breeds of Live Stock, a 4	Animal Husbandry	2

JUNIOR YEAR

First Semester—

Advanced Stock Judging, a 2	Animal Husbandry	3
Animal Nutrition, a 3	Animal Husbandry	5

Second Semester—

Agricultural Chemistry, a 3	Chemistry	6
Farm Crops, a 4 b 1	Agronomy	2
Forestry, a 2	Horticulture	4

SENIOR YEAR

First Semester—

Stock Feeding and Management, a 2	Animal Husbandry	6
Veterinary Medicine, a 5	Veterinary	4
Bacteriology, a & b 5	Veterinary	6
Public Speaking, a 3	Philosophy	7
History of Education, a 3	Philosophy	5
Practical Publicity, a 2	Commerce	11

Second Semester—

Stock Feeding and Management, a 3	Animal Husbandry	7
Veterinary Medicine, a 5	Veterinary	5
Farm Machinery, a & b 3	Agronomy	8
Principles of Education, a 3	Philosophy	6
Meteorology, a 2 b 1	Agronomy	10
Public Speaking, a 2	Philosophy	8
Practical Publicity, a 2	Commerce	12
Agricultural Economics, a 2	History	18

Dairy Husbandry Group

SOPHOMORE YEAR

Second Semester—

Inspection and Testing of Dairy Products, a & b 4	Dairy Husbandry	2

Landscape Gardening, b 2, or .... Horticulture 6
English Literature, a 3, or .... English 12 or 14 or 16
Farm Crops, a4 b 1.............................Agronomy 2

JUNIOR YEAR

First Semester—

Factory Operation (Creamery), a & b 5 .. Dairy Husbandry 4

Second Semester—

Factory Operation (Cheese), a & b 5 ...... Dairy Husbandry 5
Forestry, a 2, or .... Horticulture 4
Sociology, a 3, or .... History 16
English Literature, a 3 .... English 12 or 14 or 16

SENIOR YEAR

First Semester—

Dairy Management, a & b 3 .... Dairy Husbandry 6
Dairy Bacteriology, a & b 3 .... Dairy Husbandry 3
Veterinary Medicine, a 5 or .... Veterinary 4
Agricultural and Sanitary Analysis, a & b 5 or .... Chemistry 5
Cytology and Botanical Methods, a 1, b 4 or ...... Botany 8
History of Education, a 3, or .... Philosophy 5
Mycology and Plant Pathology, b 2, or .... Botany 5
English Literature, a3, or .... English 11 or 13 or 15
Animal Nutrition, a 3 .... Animal Husbandry 5
Practical Publicity, a 2..........................Commerce 11

Second Semester—

Dairy Technology, a 2 .... Dairy Husbandry 7
Dairy Research, a 5 .... Dairy Husbandry 8
Chemistry of Foods and Nutrition, a & b 5, or .... Chemistry 4
Agricultural Chemistry, a 3, or .... Chemistry 6
Veterinary Medicine, a 5, or .... Veterinary 5
Cytology and Botanical Methods, a 1, b 4, or .... Botany 9
Principals of Education, a 3, or .... Philosophy 6
English Literature, a 3 .... English 12 or 14 or 16
Meteorology, a 2 b 1..............................Agronomy 10
Practical Publicity, a 2..........................Commerce 12
Agricultural Economics, a 2........................History 18

Veterinary Group

SOPHOMORE YEAR

Second Semester—

Chemistry of Foods and Nutrition, a & b 5 ...... Chemistry 4
Horse Shoeing, a 2 .... Veterinary 1

JUNIOR YEAR

First Semester—

*General Physics, a 3, b 2 .... Physics 3
Veterinary Anatomy, a & b 5 .... Veterinary 2
Advanced Stock Judging, a 2 .... Animal Husbandry 3

Animal Nutrition, a 3	Animal Husbandry	5

Second Semester—

*General Physics, a 3, b 2	Physics	4
Veterinary Anatomy, a & b 5	Veterinary	3
Inspection and Testing of Dairy Products, a & b 4	Dairy Husbandry	2
Veterinary Materia Medica, a 3	Pharmacy	10

*To be taken in place of Soils, Agronomy 5 & 6, by students of this group.

SENIOR YEAR

First Semester—

Veterinary Medicine, a 5	Veterinary	4
Histology, a & b 5	Zoology	8
Bacteriology, a & b 5	Veterinary	6
Comparative Anatomy of Vertebrates, a & b 5	Zoology	6
History of Education, a 3	Philosophy	5
Practical Publicity, a 2	Commerce	11

Second Semester—

Veterinary Medicine, a 5	Veterinary	5
Histology, a & b 5	Zoology	9
Comparative Anatomy of Vertebrates, a & b 5	Zoology	7
Principles of Education, a 3	Philosophy	6
Meteorology, a 2 b 1	Agronomy	10
Practical Publicity, a 2	Commerce	12
Agricultural Economics, a 2	History	18

Agronomy Group

SOPHOMORE YEAR

Second Semester—

Farm Crops, a 4 b 1	Agronomy	2
Advanced Farm Crops, a & b 5	Agronomy	3

JUNIOR YEAR

First Semester—

Bacteriology, a & b 5	Veterinary	6

Second Semester—

Taxonomy, a 2, b 3	Botany	7

SENIOR YEAR

First Semester—

Plant Physiology, a 1, b 2	Botany	4
Mycology and Plant Pathology, b 2	Botany	5
Soils, a & b 5	Agronomy	6
Advanced Farm Crops, a & b 5	Agronomy	12
Economic Entomology, a & b 2	Entomology	5
History of Education, a 3	Philosophy	5
Investigation and Thesis, a & b 5 to 10	Agronomy	14
Practical Publicity, a 2	Commerce	11

Second Semester—

Soils, a& b 5	Agronomy	7
Economic Entomology, a & b 2	Entomology	6
	Agronomy	6
Agricultural Chemistry, a 3	Chemistry	6
Principles of Education, a 3	Philosophy	6
Investigation and Thesis, a & b 5 to 10	Agronomy	15
Practical Publicity, a 2	Commerce	12
Agricultural Economics, a 2	History	18
Meteorology, a 2 b 1	Agronomy	10

Horticulture Group

SOPHOMORE YEAR

Second Semester—

Floriculture and Market Gardening, a 1, b 1	Horticulture	3
Forestry, a 2	Horticulture	4

JUNIOR YEAR

First Semester—

Plant Physiology, a 1, b 2	Botany	4
Mycology and Plant Pathology, b 2	Botany	5

Second Semester—

Taxonomy, a 2, b 3	Botany	7
Mycology and Plant Pathology, b 2	Botany	6

SENIOR YEAR

First Semester—

Economic Entomology, a & b 2	Entomology	5
Systematic Pomology, b 1	Horticulture	5
Cytology and Botanical Methods, a 1, b 4	Botany	8
History of Education, a 3	Philosophy	5
Practical Publicity, a 2	Commerce	11

Second Semester—

Economic Entomology, a 1, b 2	Entomology	6
Sociology, a 3	History	16
Landscape Gardening, b 2	Horticulture	6
Architectural Drawing, b 3	Mechanical Engineering	6
Principles of Education, a 3	Philosophy	6
Meteorology, a 2 b 1	Agronomy	10
Practical Publicity, a 2	Commerce	12
Agricultural Economics, a 2	History	18

Plant Pathology and Agricultural Botany Group

SOPHOMORE YEAR

Second Semester—

Economic Botany, a & b 3	Botany	3

JUNIOR YEAR

First Semester—

Plant Physiology, a 1, b 2	Botany	4
Mycology and Plant Pathology, b 2	Botany	5

Second Semester—

Taxonomy, a2, b 3	Botany	7
Mycology and Plant Pathology, b 2	Botany	6

SENIOR YEAR

First Semester—

Cytology and Botanical Methods, a 1, b 4	Botany	8
Economic Entomology, a & b 2	Entomology	5
Investigation and Thesis, a & b 3	Botany	11
History of Education, a 3	Philosophy	5
Practical Publicity, a 2	Commerce	11

Second Semester—

Cytology and Botanical Methods, a 1, b 4	Botany	9
Economic Entomology, a & b 2	Entomology	6
Investigation and Thesis, a & b 5	Botany	12
Principles of Education, a 3	Philosophy	6
Meteorology, a 2 b 1	Agronomy	10
Practical Publicity, a 2	Commerce	12
Agricultural Economics, a 2	History	18

Chemistry Group

SOPHOMORE YEAR

Second Semester—

Chemistry of Food and Nutrition, a & b 5	Chemistry	4

JUNIOR YEAR

First Semester—

Histology, a & b 5	Zoology	8

Second Semester—

Histology, a & b 5	Zoology	9
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9

SENIOR YEAR

Second Semester—

Bacteriology, a & b 5	Veterinary	6
Agriculture and Sanitary Analysis, a & b 3	Chemistry	5
Industrial Chemistry, a 3	Chemistry	7
History of Education, a 3	Philosophy	5
Practical Publicity, a 2	Commerce	11

Second Semester—

Agricultural Chemistry, a 3	Chemistry	6
Advanced Chemistry of Foods, a & b 5	Chemistry	8
Principles of Education, a 3	Philosophy	6
Practical Publicity, a 2	Commerce	12
Agricultural Economics, a 2	History	18

HOME ECONOMICS

FRESHMAN YEAR

First Semester—

Rhetoric, a 3 .... English 9
Elementary Logic, a 2 .... Philosophy 2
Elementary Chemistry, a & b 5 .... Chemistry 1
Principles of Cookery, a 2, b 3 .... Home Economics 3
Elective, a 4 ....
  French, a 4 .... French 1
  German, a 4 .... German 1

Second Semester—

Rhetoric, a 3 .... English 10
Elementary Logic, a 2 .... Philosophy 2
Elementary Chemistry, a & b 5 .... Chemistry 2
Textiles and Principles of Sewing, a & b 5....Home Economics 10
Electives, a 4 ....
  French, a 4 .... French 2
  German, a 4 .. .. German 2

SOPHOMORE YEAR

First Semester—

English Literature from Milton to Goldsmith, a 3.... English 11
Quantitative Chemistry, a & b 5 .... Chemistry 3
General Botany, a 2, b 3 .... Botany 1
Preparatory Dressmaking, a & b 3...........Home Economics 11
Elective, a 4 ....
  French, a 4 .... French 3
  German, a 4 .... German 3

Second Semester—

English Prose Literature from Johnson to Morley, a 3 English 12
Chemistry of Foods and Nutrition, a & b 5 ...... Chemistry 4
General Botany, a 2, b 3 .... Botany 2
Theory of Design, a 2.................................Art 3
Elective, a 4 ....
  French, a 4 .... French 4
  German, a 4 .... German 4

JUNIOR YEAR

First Semester—

English Literature, a 3 .... English 13 or 15
History, Medieval, a 3 .... History 7
General Zoology & Physiology, a 2, b 3 .... Zoology 2
Bacteriology, a & b 5 .... Veterinary 6
Psychology, a 3 .... Philosophy 3

Second Semester—

English Literature, a 3 .... English 14 or 16

History, Modern, a 3	History	8
General Zoology & Physiology, a 2, b 3	Zoology	3
Advanced Dressmaking, a & b 3	Home Economics	12
Serving and Dietetics, a 1, b 2	Home Economics	4
Ethics, a 3	Philosophy	4

SENIOR YEAR

First Semester—

Economics, a 3	History	15
Art History, a 2	Art	6
Handicraft, b 2	Art	4
Sanitation, a 3	Home Economics	6
Home Nursing, a 3	Home Economics	7
The House, a 2	Home Economics	9
The Retail Market, a 2	Home Economics	11
Elective, a 3		
History of Education, a 3	Philosophy	5
Nature Study, a 3	Entomology	12

Second Semester—

Sociology, a 3	History	16
Astronomy, a 4	Mathematics	15
Art History, a 2	Art	7
Handicraft, b 2	Art	5
Special Problems in Cookery, a 1, b 2	Home Economics	5
Elective, a 5		
Principles of Education, a 3	Philosophy	6
Ornithology (Bird Life), a & b 2	Entomology	12
Household Insects, a 2	Entomology	9

MECHANICAL ENGINEERING

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Solid Geometry, a 3	Mathematics	7
Plane Trigonometry, a 2	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Engineering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Advanced Algebra, a 3	Mathematics	8
Plane and Spherical Trigonometry, a 2	Mathematics	10

Elementary Chemistry, a & b 5 .... Chemistry 2
Machine Shop, b 3 .... Mechanical Engineering 3
Surveying, b 2 .... Civil Engineering 2
Military Tactics, 3 ....

SOPHOMORE YEAR

First Semester—

Analytic Geometry .... Mathematics 11
General Physics, a 3, b 2 .... Physics 3
French, a 4.. French 1
Machine Shop, b 5 .... Mechanical Engineering 4
Military Tactics, 3 ....

Second Semester—

Calculus, a 5 .... Mathematics 12
General Physics, a 3, b 2 .... Physics 4
French, a 4 .... French 2
Descriptive Geometry, a 1, b 2 ...... Mechanical Engineering 7
Machine Design, b 2 .... Mechanical Engineering 8
Elements of Military Science, a 1 .... Military 1
Military Tactics, 3 ....

JUNIOR YEAR

First Semester—

Machine Design, b 4 .... Mechanical Engineering 9
Elements of Mechanism, a 3 .... Mechanical Engineering 16
Electricity and Magnetism, a 3, b 1 .... Electrical Engineering 1
Hydraulics, a 3 .... Civil Engineering 5
Analytic Mechanics and Calculus, a 5 .... Mathematics 13

Second Semester—

Analytic Mechanics, a 3 .... Mathematics 14
Steam Engineering and Thermodynamics, a 5
.... Mechanical Engineering 12
Mechanics of Materials, a 5 .... Mechanical Engineering 16
Electrical Measurements, b 1..........Electrical Engineering 2
Dynamo Electrical Machinery, a 3, b 2.Electrical Engineering 3

SENIOR YEAR

First Semester—

Gas and Oil Engines, a 2 .... Mechanical Engineering 11
Experimental Engineering, b 3 ...... Mechanical Engineering 17
Steam Boilers, a 2 .... Mechanical Engineering 13
Engineering Design, b 5 .... Mechanical Engineering 19
Stresses in Framed Structures, a 3 .. Mechanical Engineering 15
Economics, a 3...................................... History 15

Second Semester—

Experimental Engineering, b 4 .... Mechanical Engineering 18
Structural Design, b 5 .... Mechanical Engineering 20
Contracts and Specifications, a 2 .... Civil Engineering 12

General Astronomy, a 4	Mathematics	15
Masonry and Foundations, a 2	Civil Engineering	9

Fifth Year Subjects in Mechanical Engineering

First Semester—

Alternating Currents, a 3, b 2	Electrical Engineering	4
Structural Design, b 3	Mechanical Engineering	21
Statics, a 2	Mechanical Engineering	24
Thesis, a 2	Mechanical Engineering	26
Elective, 5		

Second Semester—

Kinematics, b 2	Mechanical Engineering	14
Structural Engineering, b 2	Mechanical Engineering	22
Heating and Ventilation, a 2	Mechanical Engineering	25
Thesis, a & b 3	Mechanical Engineering	27
Railroad Engineering, a 1, b 2	Civil Engineering	13
Elective, 5		

Note—All Electives must be taken in the department.

ELECTRICAL ENGINEERING

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Solid Geometry, a 3	Mathematics	7
Plane Trigonometry, a 2	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Engineering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Advanced Algebra, a 3	Mathematics	8
Plane and Spherical Trignometry, a 2	Mathematics	10
Elementary Chemistry, a & b 5	Chemistry	2
Machine Shop, b 3	Mechanical Engineering	3
Surveying, b 2	Civil Engineering	2
Military Tactics, 3		

SOPHOMORE YEAR

First Semester—

Analytic Geometry	Mathematics	11
General Physics, a 3, b 2	Physics	3
French, a 4	French	1
Machine Shop, b 5	Mechanical Engineering	4
Military Tactics, 3		

Second Semester—

Calculus, a 5	Mathematics	12
General Physics, a 3, b 2	Physics	4
French, a 4	French	2
Descriptive Geometry, a 1, b 2	Mechanical Engineering	7
Machine Design, b 2	Mechanical Engineering	8
Elements of Military Science, a 1	Military	1
Military Tactics, 3		

JUNIOR YEAR

First Semester—

Electricity and Magnetism, a 3, b 2	Electrical Engineering	1
Machine Design, b 4	Mechanical Engineering	9
Elements of Mechanism, a 3	Mechanical Engineering	10
Hydraulics, a 3	Civil Engineering	5
Analytic Mechanics and Calculus, a 5	Mathematics	13

Second Semester—

Analytic Mechanics, a 3	Mathematics	14
Electrical Measurements, b 1	Elecrical Engineering	2
Dynamo Electric Machinery, a 3, b 2	Electrical Engineering	3
Steam Engines and Thermodynamics, a 5	Mechanical Engineering	12
Mechanics of Materials, a 5	Mechanical Engineering	16

SENIOR YEAR

First Semester—

Alternating Currents, a 3, b 2	Electrical Engineering	4
Dynamo Design, b 3	Electrical Engineering	5
Gas and Oil Engines, a 2	Mechanical Engineering	11
Steam Boilers, a 2	Mechanical Engineering	13
Experimental Engineering, b 3	Mechanical Engineering	17
Economics, a 3	History	15

Second Semester—

Electric Light and Power Distribution, a 3, b 2	Electrical Engineering	6
Experimental Engineering, b 4	Mechanical Engineering	18
Contracts and Specifications, a 2	Civil Engineering	12
General Astronomy, a 4	Mathematics	15
Masonry and Foundations, a 2	Civil Engineering	9

Fifth Year Subjects in Electrical Engineering

First Semester—

Polyphase Currents, a 3, b 2	Electrical Engineering	7
Electrical Design, b 3	Electrical Engineering	8
Thesis, a or b 2	Electrical Engineering	11
Stresses in Framed Structures, a 3	Mechanical Engineering	15
Elective, 5		

Second Semester—

Designs of Power Stations, a 2, b 3	Electrical Engineering	9
Long Distance Transmission, a 2	Electrical Engineering	10
Thesis, a or b 3	Electrical Engineering	12
Railroad Engineering, a 1, b 2	Civil Engineering	13
Elective, 5		

Note—Electives must be taken in the department.

Special electives in Electrical Engineering subjects will be offered in the senior and fifth years.

CIVIL ENGINEERING

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Solid Geometry, a 3	Mathematics	7
Plane Trigonometry, a 2	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Engineering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Advanced Algebra, a 3	Mathematics	8
Plane and Spherical Trigonometry, a 2	Mathematics	10
Elementary Chemistry, a & b 5	Chemistry	2
Surveying, a & b 5	Civil Engineering	1
Military Tactics, 3		

SOPHOMORE YEAR

First Semester—

Analytic Geometry	Mathematics	11
General Physics, a 3, b 2	Physics	3
French, a 4	French	1

Surveying, a & b 5	Civil Engineering	3
Military Tactics, 3		

Second Semester—

Descriptive Geometry, a 1, b 2	Mechanical Engineering	7
Calculus, a 5	Mathematics	12
General Physics, a 3, b 2	Physics	4
French, a 4	French	2
Topographical Surveying, a & b 2	Civil Engineering	4
Elements of Military Science, a 1	Military	1
Military Tactics, 3		

JUNIOR YEAR

First Semester—

Analytic Mechanics and Calculus a 5	Mathematics	13
Electricity and Magnetism, a 3, b 2	Electrical Engineering	1
Machine Design, b 4	Mechanical Engineering	9
Elements of Mechanism, a 3	Mechanical Engineering	10
Hydraulics, a 3	Civil Engineering	5

Second Semester—

Analytic Mechanics, a 3	Mathematics	14
Steam Engines and Thermodynamics, a 5	Mechanical Engineering	12
Mechanics of Materials, a 5	Mechanical Engineering	16
Geodesy, a 3	Civil Engineering	6
Water Supply, a 2	Civil Engineering	7
Irrigation, a 2	Civil Engineering	8

SENIOR YEAR

First Semester—

Economics, a 3	History	15
Geology, a 5	Agronomy	9
Steam Boilers, a 2	Mechanical Engineering	13
Stresses in Framed Structures, a 3	Mechanical Engineering	15
Experimental Engineering, b 3	Mechanical Engineering	17
Sewerage, a 2	Civil Engineering	10
Roads and Pavement, a 2	Civil Engineering	11

Second Semester—

General Astronomy, a 4	Mathematics	15
Experimental Engineering, b 4	Mechanical Engineering	18
Contracts and Specifications, a 2	Civil Engineering	12
Railroad Engineering, a 3	Civil Engineering	13
Dam and Reservoir Designs, b 2	Civil Engineering	14
Masonry and Foundations, a 2	Civil Engineering	9

Fifth Year Subjects in Civil Engineering

First Semester—

Gas and Oil Engines, a 2	Mechanical Engineering	11
Structural Design, a 3, b 2	Civil Engineering	15
Hydraulic Motors, a 3	Civil Engineering	17
Reinforced Concrete, a 3	Civil Engineering	18
Thesis, a 2	Civil Engineering	19
Elective, 3		

Second Semester—

Dynamo Electric Machinery, a 3, b 2	Electrical Engineering	3
Kinematics, b 2	Mechanical Engineering	14
Structural Design, b 3	Civil Engineering	16
Thesis, a & b 3	Civil Engineering	20
Elective, 5		

Note—Electives must be chosen in the department.

GENERAL SCIENCE

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Elementary Chemistry, a & b 5	Chemistry	1
Military Tactics, 3		
Elective, 9		
French, a 4, or	French	1
German, a 4	German	1
Principles of Cookery, a 2, b 3	Home Economics	3
Solid Geometry, a 3, and	Mathematics	7
Plane Trigonometry, a 2	Mathematics	9

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	2
Military Tactics, 3		
Elective, 9		
French, a 4, or	French	2
German, a 4	German	2
Textiles, a 2, and	Home Economics	10
Principles of Sewing, b 3	Home Economics	11

Or two of the three following subjects:

Surveying, b 2	Civil Engineering	2
Advanced Algebra, a 3	Mathematics	8
Plane and Spherical Trigonometry, a 2	Mathematics	10

SOPHOMORE YEAR

First Semester—

English Literature from Milton to Goldsmith, a 3	English	11
Public Speaking, a 3	Philosophy	7
Military Tactics, 3		
Elective, a & b 14		
French, a 4, or	French	3
German, a 4	German	3
And two of the following:		
General Botany, a 2, b 3	Botany	1
General Zoology, a 2, b 3	Zoology	3
Quantitative Chemistry, a & b 5	Chemistry	3
General Physics, a 3, b 2	Physics	3
Analytic Geometry	Mathematics	11

Second Semester—

English Prose Literature from Johnson to Morley, a 3	English	12
Public Speaking, a 2	Philosophy	8
Elements of Military Science, a 1	Military	1
Military Tactics, 3		
Elective, a & b 14		
French, a 4, or	French	4
German, a 4	German	4
And two of the following:		
General Botany, a 2, b 3	Botany	2
General Zoology, a 2, b 3	Zoology	4
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
General Physics, a 3, b 2	Physics	4
Calculus, a 5	Mathematics	12

JUNIOR YEAR

First Semester—

English Literature, a 3	English	13 or 15
History, Medieval, a 3	History	7
Psychology, a 3	Philosophy	3
Elective, a & b 10		

Second Semester—

English Literature, a 3	English	14 or 16
History, Modern, a 3	History	8
Ethics, a 3	Philosophy	4
Electives, a & b 10		

SENIOR YEAR

First Semester—

Economics, a 3	History	15
Geology, a 5	Agronomy	9
Elective, a & b 10		

Second Semester—

Sociology, a 3	History	16
General Astronomy, a 4	Mathematics	15
Elective, a & b 10		

Electives of Junior and Senior Years in General Science

First Semester—

General Botany, a 2, b 3	Botany	1
Plant Physiology, a 1, b 2	Botany	4
Mycology and Plant Pathology, b 2	Botany	5
Cytology and Botanical Methods, a 1, b 4	Botany	8
Quantitative Chemistry, a & b 5	Chemistry	3
Agricultural and Sanitary Analysis, a & b 5	Chemistry	5
Industrial Chemistry, a 3	Chemistry	7
General Physics, a 3, b 2	Physics	3
Advanced Physics, a 4, b 1	Physics	5
Heat, a 3, b 1	Physics	7
Entomology, a & b 2	Entomology	3
Economic Entomology, a & b 2	Entomology	5
Systematic Entomology, b 2	Entomology	7
Insects and Disease, a 2	Entomology	10
Nature Study, a 3	Entomology	12
Materia Medica, a 5	Pharmacy	2
General Zoology, a 2, b 3	Zoology	3
Comparative Anatomy of Vertebrates, a & b 5	Zoology	7
Histology, a & b 5	Zoology	9
Embryology, a & b 5	Zoology	11
Bacteriology, a & b 5	Veterinary	6
Analytic Geometry	Mathematics	11
Analytic Mechanics, a 5	Mathematics	13
French, a 3	French	5
German, a 3	German	5
English Poetry from 1798 to 1832, a 3	English	13
English Literature from Beowulf to Milton, a 3	English	15
The English Novel, a 3	English	17
Biblical History and Literature, a 2	English	19
Argumentation, a 3	English	21
American History (1783-1829), a 3	History	9
Nineteenth Century History, a 2	History	11
American Government, a 3	History	13
History of Education, a 3	Philosophy	5

Theory and Practice of Design, a & b 2	Art	4
Art History, a 2	Art	6
Theory of Interpretation and Musical Forms, a 2	Music	6
History of Music, a 3	Music	7
Military Law, a 1	Military	2
Field Service Regulations & Military Field Engineering, a 1	Military	4
Practical Publicity, a 3	Commerce	11

Second Semester—

General Botany, a 2, b 3	Botany	2
Economic Botany, a & b 3	Botany	3
Taxonomy, a 2, b 3	Botany	7
Cytology and Botanical Methods, a 1, b 4	Botany	9
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
Chemistry of Food and Nutrition, a & b 5	Chemistry	4
Agricultural Chemistry, a 3	Chemistry	6
General Physics, a 3, b 2	Physics	4
Advanced Physics, a 4, b 1	Physics	6
Light, a 3, b 1	Physics	8
Entomology, a & b 4	Entomology	4
Economic Entomology, a & b 2	Entomology	6
Systematic Entomology, b 2	Entomology	8
Bird Life, a & b 2	Entomology	11
Materia Medica, a 5	Pharmacy	3
General Zoology, a 2, b 3	Zoology	3
Comparative Anatomy of Vertebrates, a & b 5	Zoology	8
Histology, a & b 5	Zoology	10
Embryology, a & b 5	Zoology	12
Genetics, a 3	Horticulture	7
Calculus, a 5	Mathematics	12
Analytic Mechanics, a 3	Mathematics	14
French, a 3	French	6
German, a 3	German	6
American History, (1829-1865), a 3	History	10
Nineteenth Century History, a 2	History	12
Political Parties in the United States, a 3	History	14
Principles of Education, a 3	Philosophy	6
Theory and Practice of Design, a & b 2	Art	5
Art History, a 2	Art	7
English Poetry from 1832, a 3	English	14
Shakespeare and the Drama, a 3	English	16
Biblical History and Literature, a 2	English	20
Argumentation, a 3	English	22
Theory of Interpretation and Musical Forms, a 2	Music	9
History of Music, a 3	Music	10

International Law, a 1	Military	3
Applied Tactics, a 1	Military	5
Business Affairs, a 2	Commerce	11
Practical Publicity, a 3	Commerce	12
Meteorology, a 2 b 1	Agronomy	10
Agricultural Economics, a 2	History	18

PHARMACY

FRESHMAN YEAR

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Elementary Chemistry, a & b 5	Chemistry	1
Solid Geometry, a 3	Mathematics	7
Plane Trignometry, a 2	Mathematics	9
Military Tactics, 3		
Elective, a 4		
French, a 4	French	1
German, a 4	German	1

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	2
Advanced Algebra, a 3	Mathematics	8
Elementary Law, a 3	Commerce	8
Military Tactics, 3		
Elective, a 4		
French, a 4	French	2
German, a 4	German	2

SOPHOMORE YEAR

First Semester—

General Botany, a 2, b 3	Botany	1
General Physics, a 3, b 2	Physics	3
Quantitative Chemistry, a & b 5	Chemistry	3
Military Tactics, 3		
Elective, a 4		
French, a 4	French	3
German, a 4	German	3

Second Semester—

General Botany, a 2, b 3	Botany	2
General Physics, a 3, b 2	Physics	4

Chemistry of Foods and Nutrition, a & b 5	Chemistry	4
Elements of Military Science, a 1	Military Science	1
Military Tactics, 3		
Elective, a 4		
French, a 4	French	4
German, a 4	German	4

JUNIOR YEAR

First Semester—

English Literature from Milton to Goldsmith, a 3	English	11
Anatomical Methods, a 3, b 2	Zoology	5
Pharmacy Latin, a 5	Pharmacy	1
Industrial Chemistry, a 3	Chemistry	7
Medieval History, a 3	History	7

Second Semester—

Anatomical Methods and Physiology, a 3, b 2	Zoology	6
Chemical Toxicology, b 5	Pharmacy	11
Pharmacognosy, a & b 5	Botany	10
Modern History, a 3	History	8

SENIOR YEAR

First Semester—

Materia Medica, a 5	Pharmacy	2
Pharmacy, a 5	Pharmacy	4
Pharmacy Laboratory, b 3	Pharmacy	5
Pharmaceutical Problems, a 2	Pharmacy	6
Bacteriology, a & b 5	Veterinary	6

Second Semester—

Materia Medica, a 5	Pharmacy	3
Pharmacy, a 5	Pharmacy	7
Pharmacy Laboratory, b 5	Pharmacy	8
Volumetric Analysis & Drug Assaying, a & b 5	Pharmacy	9

TWO YEAR COURSE IN PHARMACY

FIRST YEAR

First Semester—

Elementary Chemistry, a & b 5	Chemistry	1
General Botany, a 2, b 3	Botany	1
Anatomical Methods, a 3, b 2	Zoology	5
Pharmacy Latin, a 5	Pharmacy	1

Second Semester—

Elementary Chemistry, a & b 5	Chemistry	2

General Botany, a 2, b 3	Botany	2
Anatomical Methods and Physiology, a 3, b 2	Zoology	6
Pharmacognosy, a & b 5	Botany	5

SECOND YEAR

First Semester—

Materia Medica, a 5	Pharmacy	2
Pharmacy, a 5	Pharmacy	4
Quantitative Chemistry, a & b 5	Chemistry	3
Pharmacy Laboratory, b 3	Pharmacy	5
Pharmaceutical Arithmetic, a 2	Pharmacy	6

Second Semester—

Materia Medica, a 5	Pharmacy	3
Pharmacy, a 5	Pharmacy	7
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
Pharmacy Laboratory, b 5	Pharmacy	8

DEPARTMENTS AND WORK

The Agricultural Experiment Station

JAMES W. WILSON, DIRECTOR

Under the provisions of the Hatch Act of March 2, 1887, and the Adams Act of March 20, 1906, the state now receives annually $30,000 from the treasury of the United States for the maintenance of an experiment station. By an act of the legislature this institution was made a part of the South Dakota Agricultural College. Its object is to investigate along agricultural lines, publish the results in bulletin form and distribute them to the residents of the state for their information and benefit. It consists of seven divisions, namely, agronomy, animal husbandry, dairy, horticulture, chemistry, botany and veterinary.

Each of these divisions is in charge of an expert who is also professor of the same subject in the college.

About sixty acres of the college farm are set aside for experiments in crop rotation and testing varieties of grains.

Another sixty acres are utilized for experiments along horticultural lines, where trees, shrubs and vines are grown in profusion. Adaptation of grains, grasses, forage plants, fruits, trees, shrubs and vegetables for the Northwest, is being carried on in co-operation with the United States Department of Agriculture and as a result many valuable varieties have been introduced which probably would not otherwise have reached us.

Each division is provided by the State with the proper facilities to conduct investigations, and at least four bulletins are published annually, which are free to residents of the state. Queries pertaining to the various agricultural interests are answered promptly. The regular bulletin mailing list of the station numbers over 19,000 names.

All communications to this department should be addressed to the Director.

Department of Animal Husbandry

PROFESSOR WILSON, MR. THOMPSON

The instruction given in this department is made as practical as possible. The college herds and flocks include representatives of eighteen of the leading breeds of domestic animals. Practical work is given daily in score card practice to enable the student to distinguish between the poor and the good and between the good and the fancy kinds of animals. Many requests are made upon this department for judges of live stock at our district and county fairs.

The following work is offered:

1. Stock Judging and Marketing Livestock. Four recitations a week, first semester; required in the freshman year of the Agriculture Course. Study and practice in judging market types of horses, cattle, sheep and swine. Text: Craig's Judging Live Stock.

2. Breeds of Live Stock. Four recitations a week, second semester; required in the sophomore year of the animal husbandry group, Agriculture Course. A study of the various breeds, their origin, development, characteristics and adaptability to different climates. Text: Plumb's Types and Breeds of Farm Animals.

3. Advanced Stock Judging. Two recitations a week, first semester; required in the junior year of the animal husbandry and veterinary groups of the Agriculture Course; prerequisite, Animal Husbandry 1 and 2. Particular attention is given to show-yard work.

4. Principles of Animal Breeding. Three recitations a week, second semester; required in the freshman year of the Agriculture Course; prerequisite, Animal Husbandry 2.

5. Animal Nutrition. Three recitations a week, first semester; required in the junior year of the veterinary and animal husbandry groups, elective in the senior year of the dairy husbandry group, Agriculture Course; prerequisite, Chemistry 2. A study of the laws and principles of animal nutrition. The physical and chemical characteristics of the various feeding stuffs and their relation to practical feeding operations. Text: Jordan's Feeding of Animals.

6. Stock Feeding and Management. Two recitations a week, first semester; required in the senior year in the animal husbandry group of the Agriculture Course; prerequisite, Animal Husbandry 5. A study of the feeding and management of the various classes of live stock and station investigation and results. Text: Henry's Feeds and Feeding, with references.

7. Stock Feeding and Management. Three recitations a week, second semester; required in the senior year of the animal husbandry group of the Agriculture Course. Continuation of Animal Husbandry 6.

Department of Dairy Husbandry

PROFESSOR LARSEN, MR. WHITE, MR. BAILEY, MR. TOLSTRUP

This department offers two separate courses: (1) the Four-Year Agriculture Course, the last one and a half years of which are devoted chiefly to special dairy studies; (2) the Three-Month Dairy Course.

The first course has been outlined with a special view of fitting young men to become teachers and investigators of dairying in public schools, agricultural colleges and experiment stations, inspectors of creameries and dairy products in municipal, state and government service and superintendents of large creameries and dairy farms.

The second course is given with a view of training men to become successful operators of creameries, cheese factories, central plants and dairy farms.

The demand for good men properly trained along dairy lines is great. Compensation for dairy and creamery work is good. Worthy students can depend upon the co-operation of this department in securing suitable work.

The Dairy Husbandry Department operates on a commercial basis a well equipped creamery and cheese factory all the year around. It is a two-story brick building. The first floor is occupied with the various creamery machinery and cheesemaking equipments. On the second floor, the research laboratory, milk inspection laboratory, class rooms and offices are located.

The dairy herd, consisting of representatives of the principal dairy breeds, which is kept in a separate dairy barn, affords excellent facilities for studying the various phases of milk production.

Experiments relating to feeding, breeding and care of dairy stock, and the manufacture of dairy products are in progress at all times. Students may have advantage of keeping in touch with these experiments, note manner of outlining and executing investigational work, and profit from results. Advanced worthy dairy students may arrange to assist in some of this work.

The following work is offered:

1. Farm Dairying. Two lectures and one laboratory period a week, second semester; required in the sophomore year of the four year Agriculture Course, and with some modification during the first year of the School of Agriculture.

This subject comprises a study of the economic production, secretion and composition of milk; of the comparative economy in disposing of and utilizing milk for various purposes on the farm, of testing milk and its products for fat, acid and common adulterations; of the effects of germs and degree of purity on dairy products; of the separating and handling of milk and cream and the manufacture of butter and cheese on the farm.

2. Inspection and Testing of Dairy Products. Four lectures and laboratory periods a week, second semester; required in the sophomore year of the dairy group and in the junior year of the veterinary group, Agriculture Course.

Those taking this course should have had at least one term's work in chemistry. It embodies a thorough study of the Babcock test for fat, of the lactometer and its application, of the tests for determining the acidity of dairy products, of the various tests for moisture in butter, of the influence and detection of different preservatives and adulterations, and a study of the various pure dairy food standards.

3. Dairy Bacteriology. One lecture and two laboratory periods a week, first semester; required in the senior year of the dairy group, Agriculture Course.

In this course are taught bacteriological principles as related to dairying, contamination of milk, fermentations of milk, and their control, relation of disease bacteria to milk, preservation of milk for commercial purposes, bacteria as related to the manufacture of butter, and bacteria as related to the manufacture of cheese. General bacteriology is a prerequisite study.

4. Factory Operation (Creamery). Three lectures and two laboratory periods a week, first semester; required in the junior year of the dairy group, Agriculture Course; prerequisite, Dairy 2.

A thorough study of the receiving, sampling and separation of milk and cream, the preparation and use of starters, pasteurization and ripening of cream, principles of churning, washing, salting, working, packing and marketing butter. Attention will also be given to the organization, location, construction, drainage, cooling and ventilation of factories and creameries, the economic disposal of factory by-products and various methods of factory refrigeration.

5. Factory Operation (Cheese). Three lectures and two laboratory periods a week, second semester; required in the junior year of the dairy group, Agriculture Course.

This course comprises a study of milk as applied to cheese-making, the manufacture of hard and soft cheese, including the principles involved in the setting, cutting, cooking, dipping, milling, salting, pressing, curing and marketing of cheese.

6. Dairy Management. Two lectures and one laboratory period a week, first semester; required in the senior year of the dairy group, Agriculture Course.

The various methods of improving and upbuilding a dairy herd, and the advanced judging of dairy stock will be emphasized, methods of weighing, testing and recording feed consumed and milk produced by each cow will be outlined. The history and adaptability of various dairy breeds to different conditions and relation of dairy types to milk producing capacity will be studied. This course will also embody study of the extent to which dairy farming is practiced and under which conditions it is best applicable, of dairy farming as an adjunct to general farming and the arrangement and construction of dairy farm buildings, stalls, yards, etc.

7. Dairy Technology. Two lectures a week, second semester; required in the senior year of the dairy group of the Agriculture Course; prerequisite, Chemistry 2 and Dairy 3.

This course treats of the ways in which milk and its products are utilized outside of the scope ordinarily embraced under dairying. It comprises such subjects as value of milk as a food, the preparation of certified, modified, standardized, fermented and condensed milk, the manufacture of casein, milk ivory, milk sugar, renovated butter and oleomargarine.

8. Dairy Research. Second semester, senior year; elective. A study of various views held by different authorities on certain important dairy subjects, a digest of recent dairy work of the experiment stations, and of comparative dairying as practiced in leading countries. A reading knowledge of German is recommended.

9. Dairy Practice. Elective. The college has a commercial creamery and cheese factory in operation every day during the year except Sunday. Students who specialize in dairying and need practical experience should make it a point to take this course. Arrangements can be made to do this practical work at almost any time during the year. Vacation time is recommended.

10. Domestic Dairying. One lecture and one laboratory period a week; elective. This course includes lectures and laboratory work

on such phases of dairying as will be of greatest interest and value to ladies and home life, such as properties of milk, the various uses of milk, and each of its component parts for the home as well as for commercial purposes, and the relation of germs to quality of dairy products and to consumers of dairy products. The detection of adulteration of milk and dairy products, the use of the Babcock test for fat, effects of different ferments on milk and dairy products, and the making of cheese and butter on the farm will be demonstrated in the College Creamery laboratory.

Department of Veterinary Medicine

PROFESSOR MOORE, MR. KELLY

This department occupies a separate two-story building with a hospital in connection. The operating room is equipped with all necessary supplies and instruments for ordinary surgical operations. Free clinics are held each Saturday forenoon at which students assist and perform operations under the direction of the instructor. The instruction offered is aimed to meet the requirements of the agricultural student as well as the special student in veterinary medicine. Increased requirements being demanded of matriculants by the veterinary colleges, the increasing demand for veterinarians who have had a general education in addition to their professional training emphasizes the desirability, and in many cases the necessity, of obtaining a baccalaureate degree before entering a veterinary college. The student who therefore anticipates entering the veterinary profession is strongly urged to complete one of the four year courses before undertaking his professional training. For a suggested arrangement of studies see the veterinary group of the Agricultural Course.

The following work is offered:

1. **Horseshoeing and Lameness.** Two recitations a week, second semester; required in the sophomore year of the animal husbandry and veterinary groups, Agriculture Course. The anatomy of the foot, its care, preparation, and shoeing; diseases of the organs of locomotion.

2-3. **Veterinary Anatomy.** Five recitation and laboratory periods a week, first and second semesters, required in the junior year of the veterinary group, Agriculture Course. Conducted by the laboratory method with frequent quizzes. Osteology and arthrology.

4. Veterinary Medicine. Five recitations and laboratory periods a week, first semester; required in the senior year of the animal husbandry and the veterinary groups, elective in the senior year of the dairy husbandry group, Agriculture Course. The work will consist of lectures and clinics.

5. Veterinary Medicine. Five recitation and laboratory periods a week, second semester; required and elective in the same courses as 4.

6. Bacteriology. Five recitation and laboratory periods a week, first semester; required in the junior year of the Home Economics Course and in the senior year of the Pharmacy Course and the veterinary, chemistry and animal husbandry groups, Agriculture Course; elective in the junior or senior year of the General Science Course and the senior year of the dairy husbandry group, Agriculture Course.

7. Veterinary Physiology. Five recitations a week, required of students of agriculture during the last half of the second semester instead of human physiology. Text: Paton's Essentials of Physiology.

For Veterinary Materia Medica, see Department of Pharmacy.

Agronomy Department

PROFESSOR HUME, ASSOCIATE PROFESSOR HUTTON, MR. WOODWORTH, MR. CHAMPLIN, MR. BIGGAR, MR. LOOMIS

The Agronomy Department is the Department of Soils and Crops. To help students apply the principles of science to crop production, on the farms of South Dakota, is the essential purpose of the courses offered.

What is soil, in South Dakota, or on some farm within the state? The student may learn to outline soil areas, to analyze soils, to observe field experiments, and answer the question for himself.

What crops will grow on South Dakota soil areas, and how may the growing of them be made most profitable to the man who does the work? A study of the results of experiments will answer the questions for the student. It is attempted to give the student in Agronomy that accurate knowledge of conditions which is necessary to success in farming.

The courses offered are fundamental, practical, scientific. They are designed for South Dakota farmers. They may be taken with profit by prospective teachers of Agriculture, or Experiment Station workers.

1. FarmCrops. Two recitations and three laboratory periods a week first semester; required in the sophomore year of the Agriculture Course. Grain judging and seed testing. Score-card judging of wheat, barley, oats, emmer, potatoes, corn and other crops. Weeds and weed seeds. Classification, harvesting, grading, cleaning, storage and care of crops. Open to all college students, without prerequisite.

2. Farm Crops. Special crops adapted to South Dakota conditions. Methods, cost and profit in production. Practical and scientific arrangement of crop rotations with a view to better crops. The relation of the crops produced in South Dakota to the world supply. As much attention as possible is given to the improvement of crops by selection and breeding. Four recitations and one laboratory period a week, second semester; required in the Agronomy group, Agriculture course; prerequisite, Agronomy 1, or Botany 1, and one year of College work.

3. Advanced Farm Crops. Elective; five to ten credits; prerequisite, agronomy 2 and two years of college work. Special problems for advanced students. The advanced student may become interested in some particular line of investigation, as for instance, a problem in corn breeding, the effect of storing of seed of corn or other crops upon germination and growth, the effect of various methods of cultivation, and problems of crop improvement. Such work may imply a study of previous experiments, cropping experiments in green house or on the field. The student will submit a final report or thesis.. Arrange time and number of hours with instructor in charge.

4. Soil Physics and Management. Five lecture and laboratory periods a week, first semester; required in the Junior year of the Agriculture Course, except of students electing the veterinary group; prerequisites, Physics 1 and 2, Chemistry 1 and 2. This course deals with the origin and development of the soil under different climate conditions; classification of soils upon several bases; texture, porosity, specific gravity, plasticity, capillarity, granulation of soils; the soil as a reservoir for water; the movement and control of soil water; irrigation and drainage; the alkali problem; aeration of the soil, its relation to soil texture and plant growth; soil temperature; the physical effect of manures upon the soil; soil erosion by wind and running water—blowing and washing—and their control; the practical application of the foregoing to methods of tillage; crop rotations and

the application of green and farm manures in the management of different types of soil. The laboratory work includes a careful study of the physical properties of the soil through observation and practice; soils are also studied under field and green house conditions.

5. Soil Fertility. Five lecture and laboratory periods a week, second semester;; required in the junior year of the Agriculture Course, except of students electing the veterinary group; prerequisite, Agronomy 1 and 4, and Chemistry 3. The relation of the fertility content of the soil to crop yields; effect of supplying various elements of fertility; effects of different rotations and systems of farming in relation to permanent agriculture; a study of a system of agriculture adapted to South Dakota conditions. The laboratory work includes the analysis of manures and fertilizers and the determination of their agricultural and commercial values; the analysis of various farm products; the analysis of a soil, preferably from the student's home farm, to determine the fertility content. These analyses serve as the basis for devising a system of permanent agriculture for the student's home farm.

6. Advanced Soil Physics. Five lecture and laboratory periods a week, fiirst semester; elective in the senior year of the Agronomy group, Agriculture Course; prerequisite, Agronomy 4. This course is designed for those students who wish to continue the work in Soil Physics begun in Agronomy 4. A study in the field of the effects of discing, harrowing, rolling, subsoiling, frequency and depth of cultivation with reference to conservation of soil moisture. The student may select a soil in which he is interested and make a complete physical analysis thereof; he may make a careful study of the movement of the water therein and its effect upon the growth of plants; he may choose a special irrigation or drainage problem in which he is interested; the results of the work are summarized in a final report or thesis. Students who elect this course are advised to signify their intention of so doing at the end of the college year, so that materials may be collected during the summer, and observations reported.

7. Advanced Soil Fertility. Five lecture and laboratory periods a week, second semester; elective in the the senior year of the Agronomy group, Agriculture Course; prerequisites, Agronomy 4 and 5. This course is a contiuation of Agronomy 5 and permits the student to study in detail a special soil in which he may be interested or to pursue a special problem. The work may include pot culture work in the green house; analysis of the soil used in the pots; application of various fertility elements and their relation to the management of the soil; the study of the micro-organisms of the soil in relation to the preparation and availability of plant food, preparation of culture media, cultures from soil

suspensions, preparation and study of a few pure cultures, ammonification, nitrification, nitrogen fixation, legume bacteria and conditions favorable to their growth, inoculation; results of bacterial action determined by quantitative analysis; reading of bulletins, books, etc., and the preparation of a bibliography. The results of the study will be submitted in a final report or thesis.

8. A Series of Lectures on Various Subjects Pertaining to Soils and Crops. Given by request of the Department of Dairy Husbandry for the students of the three months' Creamery Course.

9. Earth Science; Geology. Three recitations and two laboratory periods a week, first semester; required in the senior year of the General Science, Civil Engineering, and Agricultural Courses. A course in general Geology with the greater emphasis placed upon the physical division of the subject. The geology of South Dakota in relation to soils, water supplies ,and mineral wealth is given special attention. Collections of rocks, minerals, typical fossils, physiographic and geologic models, lantern slides, charts and maps are available for laboratory work and reference.

10. Earth Science; Meteorology. Two recitations and one laboratory period a week, the second semester; elective in the junior or senior year of the General Science Course and the Agricultural Course, except for students electing the veterinary group. A practical course dealing with the laws controlling the movements of the atmosphere, the study of climatological and weather factors, with special attention to conditions in the United States, the climate and weather of South Dakota in relation to her various economic interests, weather maps and forecasts.

Graduate Courses. A limited number of courses of study may be arranged for students who have already received the Bachelor's Degree and who desire to pursue some line of investigational work. Such students should consult with the Professor in charge. Problems relating to systems of farming and soil fertility, mechanical composition of soils, drainage water, variation in type as related to crop yields, influence of selection and breeding upon yield of special crops may be included in a list of possible studies for graduates.

Department of Horticulture and Forestry

PROFESSOR HANSEN, MR. STOLTENBERG

In this department the work is given from two standpoints. In one, especially in the study of genetics, emphasis is placed upon the general philosophy of the subject as being essential to a general education. The claim is made that some of the principles of horticulture and forestry are essential to any well rounded education and to the best preparation for citizenship. The second standpoint is that of students intending to make a life work of horticulture or forestry, either as a business or a profession. Throughout the course full use is made of the student's attainments in the various sciences underlying these subjects. The variation of plants and the principles and methods of their development under the hand of man are considered, as well as their propagation and cultivation.

Field and laboratory exercises emphasize the lectures and recitations of the class room. The habit of independent investigation and close observation is encouraged by requiring written reports of outdoor excursions or demonstrations. Excellent facilities for practical illustration are afforded by the ninety acres of experiment station horticulture grounds and college campus. In this domain are included orchards, forestry plantations, nurseries, vegetable gardens, small fruit plantations, flower borders and a collection of ornamental plants. Special attention is paid to the breeding of hardy fruits adapted to prairie conditions and the work in this line is now second to none in extent. The department greenhouses consist of two sections, one for the general floriculture work and the other for fruit-breeding experiments. In addition, the horticultural buildings contain class rooms, laboratory, grafting and potting rooms and storage cellars.

Special stress is placed upon practical work in the grafting room.

The following work is offered:

1-2. General Horticulture. One laboratory period a week throughout the year; required in the sophomore year of the Agriculture Course. An introduction to the various divisions of horticultural work, especially the propagation of plants and the best western nursery methods of planting, pruning and cultivation. Special attention is given to the grafting and budding of fruit trees. Elementary exercises in the identification and description of fruits and the origination of new varieties. Students are required in their laboratory notes to give the reasons why as well as the methods.

3. Floriculture and Market Gardening. One recitation and laboratory period a week, second semester; required in the sophomore

year of the horticulture group, Agriculture Course.

The commercial and amateur cultivation of flowers and vegetables under glass and in the open air; lectures; demonstrations, and text book work.

4. Forestry. Two lectures or recitations a week, second semester; required in the sophomore year of the horticulture group, Agriculture Course.

Principles of forestry; the influence of forests on climate; timber planting on the prairies; European forestry methods as modified by prairie conditions; shelter belts; the propagation, cultivation, characteristics and use of forest trees; lectures and demonstrations.

Texts: Pinchot's Primer of Forestry; Green's Forestry in Minnesota; Proceedings of the American Forest Congress.

5. Systematic Pomology. Two laboratory exercises a week, first semester; required in the senior year of the horticulture group, Agriculture Course.

Principles of fruit culture with special reference to prairie conditions; exercises in the identification and description of fruits. Texts: American Horticultural Manual, Bailey's Principles of Fruit Culture.

6. Landscape Gardening. One recitation and one laboratory period a week, second semester; required in the senior year of the horticulture group, Agriculture Course.

The philosophy of the Beautiful in its various modes of expression; gardening as one of the fine arts; historic developement of the ancient or geometric and the modern or natural styles; the best ornamental trees, shrubs, plants and hedges. Special attention is paid to the development of originality in the planning and laying out of country and city home grounds, parks and school grounds; lectures; text-book, and references.

7. Genetics. Three recitations a week, second semester; required in the senior year, Agriculture Course.

This subject is especially recommended to students of the sciences relating to plants and animals, and also to students of general history and sociology. The evolution of plants and animals under the hand of man and in the state of nature; the philosophy of artificial evolution or the modification and amelioration of plants and animals by environment, selection and hybridization; the relation of genetics to society; recent theories and work in plant-breeding.

Texts: Darwin's Animals and Plants under Domestication; De Vries' Species and Varieties, their Origin by Mutation; Bailey's Plant-Breeding and Survival of the Unlike; Reports of International Conferences on Genetics; Reports of the U. S. Department of Agriculture.

8. Plant Propagation. Practical exercises in tree, shrub and

plant propagation for students in the short agricultural course.

9. Floriculture and Home Gardening. Instruction in home gardening for the students in the short winter course in domestic economy and agriculture; text-books; practical demonstrations and exercises.

10. Forestry and Landscape Gardening. Lectures and exercises in the leading essentials of tree culture and the planting of home grounds for students in the short winter courses in agriculture.

Department of Home Economics

MISS TOUGH, MISS HYDE, MISS ERWIN

The purpose of the department is to provide training along the lines of intelligent house-keeping and home-making and also to prepare women to teach the subject. The location for carrying on the work is most favorable being the entire third floor of the North Building where there is abundance of room, air and light. The rooms consist of a large kitchen, a dining-room, a sewing-room and a recitation room provided with the equipment necessary for carrying on the work. Through the general library, opportunity is given for the use of the newest and best literature relating to the subject.

The work offered is intended to impart knowledge, develop skill in execution, stimulate self-direction and broaden and strengthen the individual. A good foundation of pure science is laid for all applied science while handwork, including sewing, gives opportunity for artistic expression the principles of which are gained through the regular art training.

In addition to the regular four-year course, which includes subjects for general training, a two-year normal course, described below, is offered.

The general subjects of the department are as follows:

For description of Home Economics 1 and 2 see preparatory department.

3. Principles of Cookery. Two recitations and three laboratory periods a week, first semester; required in freshman year of Home Economics Course; elective in freshman year of General Science Course; freshman or higher classification necessary. The work covers

the study of food in source, composition, nutritive value, preparation and serving with training in care of kitchen and utensils.

4. Serving and Dietetics. One recitation and two laboratory periods a week, second semester; required in junior year of Home Economics Course; elective in junior year of General Science Course in place of Physics 4; prerequisite, Botany 2, Chemistry 3, Zoology 3 and Home Economics 1. The work includes preparation of menus with special reference to balanced diet, cooking and serving of meals and calculation of dietaries.

5. Special Problems in Cookery. One recitation and two laboratory periods a week, second semester; required in senior year of Home Economics Course; prerequisite, Botany 2, Chemistry 3, Zoology 3 and Home Economics 2.

The course covers diet for children and invalids and advanced work in the preparation and serving of meals, special attention being given to cost.

6. Sanitation and Hygiene. Three recitation periods a week, first semester; required in senior year of Home Economics Course; elective, together with Home Economics 6, in junior year of General Science Course in place of Physics 3; prerequisite, Chemistry 2, Botany 2 and Zoology 2. The course includes consideration of municipal and rural problems in sanitation, the care and handling of food in the market and in the home, the lighting, heating, ventilation, plumbing and general care of the house.

7. Home Nursing. Three recitation periods a week, first semester; required in senior year of Home Economics Course. Senior classification or special advanced standing necessary. The work covers the general care of the sick, directions for emergencies and consideration of some common disease.

8. The House. Two recitation periods a week, first semester; required in senior year of Home Economics Course; elective, together with Home Economics 4, in place of Physics 3, in junior year of General Science Course. The work embraces construction, furnishing and general care, including management and cleaning of the house and its equipment.

9. The Market. Two recitation periods a week, first semester; required in senior year of Home Economics Course; senior classification or special advanced standing necessary. The course covers equipping of the house with attention to quality, suitability and cost of necessary articles, the purchase and care of food, the preparation of menus and marketing lists and a study of bookkeeping and accounts.

10. Textiles and Principles of Sewing. Three laboratory periods a week, second semester; required in freshman year of Home Economics Course; elective in freshman year of General Science Course.

The course covers the making of simple and useful articles in which are incorporated the stitches necessary for garment making; the making of a set of undergarments is also required. A study is made of the fabrics used in such work along the lines of source, manufacture, general characteristics and qualities and adaptations to specific uses.

11. Dressmaking. Two laboratory periods a week, first semester; required in sophomore year of Home Economics Course; prerequisite, Home Economics 9. The work includes drafting, cutting, fitting, and making of a shirt-waist suit, etc.

12. Advanced Dressmaking. Three recitation and laboratory periods a week, second semester; required in junior year of Home Economic Course; prerequisite, Home Economics 10 and 11. The course covers the making of a fitted and lined costume and such other work as seems best.

THE NORMAL COURSE

This course covers a period of two years and is for students intending to teach Home Economics. The requirements for entrance are that the candidate be not under eighteen years of age and that she shall have completed a regular four years' High School course or its equivalent. The subjects included in the course are as indicated below. They are similar in character to those designed for the general Home Economics Course, with the difference that the work is more concentrated and gives especial emphasis to the presentation with a view to teaching.

TWO YEAR NORMAL COURSE

FIRST YEAR

First Semester—

Chemistry	a 2, b 3
Sewing	b 2
Cookery	a 2, b.3
Botany	a 2, b 3
French	a 4

Second Semester—

Physics (Heat)	a 1, b 2
Sanitation & Home Nursing	a 2
Chemistry	a 2, b 3
Textiles and Sewing	a2, b 3

French	a 4
Theory of Design	a 2
The Retail Market and the House	a 2
Drawing	b 2

SECOND YEAR

First Semester—

Psychology	a 3
Bacteriology	a & b 5
General Zoology & Physiology	a 2, b 3
History of Education	a 3
Handicraft	b 2
Normal Methods	a 1
Sewing and Handwork	b 2

Second Semester—

Principles of Education	a 3
Organic Chemistry	b 4
Practice Teaching	b 1
Cookery	a 2, b 3
Handicraft	b 2
General Zoology & Physiology	a 2, b 3

Department of Mechanical Engineering

PROFESSOR SOLBERG, PROFESSOR COOK, MR. BONELL

The object of the work offered is to give the students a thorough training in the theoretical principles underlying the science of mechanics and machines and at the same time to enable them to become particularly familiar with some of the numerous applications of these principles which are of such inestimable value to the human race.

The instruction is both theoretical and practical. The usual methods of text-book study and lectures are employed, but the student is required to put into practice, as far as possible, the instruction he receives. Hence the work of the class-room is supplemented and practically exemplified by practice in shops. The student not only studies the theories of constructing and operating machinery, but in the drawing room he designs, and in the shop he constructs and operates such machines. It is believed that those who complete this course will be able to fill responsible positions in manufacturing establishments. It is important that French be elected as the language that is required in addition to English.

The department is located in the Engineering Building. The workshops are supplied with a large variety and quantity of tools. They are furnished with twenty-five sets of carpenter tools and with eight wood turning and one pattern maker's lathe, a scroll saw, a combination circular saw and a twenty-inch planer. There is also a variety of special tools for wood working.

The machine shop is furnished with a large number of engine lathes of different sizes, a universal milling machine, shaper, planer, tool grinder, drill press, emery wheels and a great variety of hand tools. The machinery is driven by a 50 horse power steam engine.

The Experimental Engineering Laboratory is equipped with a 100,000 pound Vertical Screw Testing Machine, for making tensile and compressive tests of the various materials of construction; an Automatic Shot Cement Briquette Testing Machine; a Gas Engine; a 10 by 10 Steam Engine; an 8 by 10 Steam Engine; a 5 by 7 Steam Engine, and there are also available for this work a 12 by 14 Steam Engine and two 48 by 16 Horizontal Tubular Boilers. A Calorimeter for determining the heat values of gases; a Calorimeter for making British thermal unit tests of coal; and an apparatus for flue gas analysis are also used in this work.

The Laboratory also possesses a large amount of smaller apparatus such as Indicators, Planimeters, Steam Gauges, Thermometers, etc., and a complete outfit for making tests of sand, cement and concrete.

Work in architectural drawing and designing is offered. Additional work along this line will be given to students who desire it.

A large number of pictures, drawings, and illustrative material has been recently added to the equipment through the liberality of manufacturers and friends of the college.

The following work is offered:

For description of Mechanical Engineering 1 and 2, see the preparatory department.

3. Machine Shop. Three laboratory periods a week, second semester; required in the freshman year of the Mechanical and the Electrical Engineering Courses. Manipulation of the various machines in turning, planing, shaping, milling, gear cutting and tool making.

4. Machine Shop. Five laboratory periods a week, first semester; required in the sophomore year of the Mechanical and the Electrical Engineering Courses. Construction of some machine or appliance from designs made in drawing room.

5. Mechanical Drawing. Five laboratory periods a week, first semester; required in the freshman year of the three Engineering Courses. Instrumental drawing, geometrical problems and parts of machines. This work is offered during the entire year, and at hours convenient to teachers and students.

6. Architectural Drawing. Three times a week, first or second semester; required in senior year of the horticultural group, Agriculture Course. Rendered drawings of simple buildings, examples of various orders, giving facility in draughtsmanship, familiarizing students with principles.

6a. Architectural Design. Three times a week, first semester; elective. Principles of planning introduced in practical problems, exercises in composition and details.

6b. Perspective. Five times a week, first or second semester; elective.

7. Descriptive Geometry. One recitation and two laboratory periods a week, second semester; required in the sophomore year of the three Engineering Courses; prerequisite, plane geometry. Instruction in methods of representing by drawing all geometrical magnitudes and solution of problems relating to these magnitudes in space.

8. Machine Design. Two laboratory periods a week, second semester; required in the sophomore year of the Mechanical and the Electrical Engineering Courses. Solution of various problems involving the design of simple parts of the machine.

9. Machine design. Four laboratory periods a week, first semester; required in the junior year of the three Engineering Courses. Continuation of Mechanical Engineering 8.

10. Elements of Mechanism. Three recitations a week, first semester; required in the junior year of the three Engineering Courses. Elements of machinery, velocity ratios, graphic representation of speed and acceleration; motion transmitting parts, such as gears, belts, cams, screws, link work; automatic feeds, parallel and quick return motions; designing. Text: Wood and Stahl.

11. Gas Engines and Gas Producers. Two recitations a week, first semester; required in the senior year of the Mechanical and

Electrical Engineering Courses and in the fifth year of the Civil Engineering Course; prerequisite, Thermodynamics. Study of the theory, design and operation of gas, gasoline and oil engines and of the various types of gas producers.

12. Steam Engines and Thermodynamics. Five recitations a week, second semester; required in the junior year of the three Engineering Courses; prerequisite, Calculus. Study of the modern steam engine, slide valve, and when in combination with independent cut-off valves, link motion and Zeuner diagrams, reciprocating parts and indicator practice; the principles of the theory of heat which are necessary to a study of the various kinds of heat engines; the application of laws of themodynamics to the steam engine and a study of steam engine economy by entropy temperature analysis and by other graphical methods. Text: Ripper's Steam Engine.

13. Steam Boilers. Two recitations a week, first semester; required in the senior year of the three Engineering Courses; prerequisite, Mechanical Engineering 16. Advantages and disadvantages of using the various forms of boilers, methods of construction, tubes and flues, plates, riveting, bracing, grate and heating surface, gages and feed appliances, setting, care and operation. Text: Peabody's Steam Boilers.

14. Kinematics. Two laboratory periods a week, second semester; required for the fifth year degree in the Mechanical and the Civil Engineering Courses. Geometry of machinery, problems in the design of motion transmitting appliances.

15. Stresses in Framed Structures. Three recitations a week, first semester; required in the senior year of the Mechanical and the Civil Engineering Courses. Graphical determination of stresses under action of static, moving and wind forces. Text: Green, Vol. 1.

16. Mechanics of Materials. Five recitations a week, second semester; required in the junior year of the three engineering courses; prerequisite, Analytic Mechanics. Study of the strength and elastic properties of the materials of construction and the behavior of and characteristics displayed by these materials when put under stress. Text: Merriman's Mechanics of Materials.

17. Experimental Engineering. Three laboratory periods a week, first semester; required in the senior year of the three engineering courses; prerequisite, Mechanics of Materials. Includes a series of tests of the various materials of construction, such as wood, cast iron, wrought iron, steel, sand, cement and concrete. Also includes the calibration of steam gauges, thermometers, planimeters, and the testing of oils.

18. Experimental Engineering. Four laboratory periods a week, second semester; required in the senior year of the three engineering courses. Includes a complete series of tests of the heating values of

various coals; use of the steam engine indicator, throttling and separating calorimeters, dynamometers and Prony brakes; and complete efficiency tests of engines and boilers in actual operation. It is the endeavor in this work to make each student thoroughly familiar with the construction and operation of steam engines, steam boilers, gas engines, and the many attachments and auxiliaries necessary for their efficient operation.

19. Engineering Design. Five laboratory periods a week, first semester; required for the fifth year degree in Mechanical Engineering. Solution in the drawing room of some practical problems in design and making working drawings of same.

20. Engineering Design. Five laboratory periods a week, second semester; required in the senior year of the Mechanical Engineering Course. Continuation of Mechanical Engineering 19.

21. Structural Design. Three laboratory periods a week, first semester; required for the fifth year degree in Mechanical Engineering. Designing of roofs and buildings for power stations. For students in mechanical and electrical engineering.

22. Structural Engineering. Two laboratory periods a week, second semester; required for the fifth year degree in Mechanical Engineering. Continuations of Mechanical Engineering 21, with special reference to results obtained from Mechanical Engineering 18.

23. Statistics. Two recitations a week, first semester; required for the fifth year degree in Mechanical Engineering. Treated with special reference to the requirements of engineers. Resolution and composition of forces; center of gravity; principles of equilibrium with numerous applications. Graphic as well as algebraic methods are used. The various hurtful resistances to friction are considered, and numerous problems worked out in the drawing room.

24. Heating and Ventilation Two recitations a week, second semester; required for the fifth year degree in Mechanical Engineering. A study of the principles underlying the design of the various systems of heating and ventilation in common use, including such details as loss of heat from buildings, problems in proportioning ventilating ducts; and the arrangement of systems of piping for steam and hot water. A study is also made of the various mechanical details entering into the installation of private plants and also plants operated from central stations.

25-26. Thesis Work. Two and three hours a week, first and second semesters; required for the fifth year degree in Mechanical Engineering. At the beginning of the fifth year's work a subject is assigned to each student, which he is to investigate, and on which he is required to prepare a thesis. This work may involve original design, or it may involve an experimental investigation of the action of certain machines or appliances or of the phenomena developed by the action of certain mechanical forces. In the pursuit of this work the student is thrown largely on his own responsibility. He is expected to familiarize himself with the literature on the subject and to study thoroughly the methods involved in the subject selected. The subject chosen should be submitted to the professor in charge not later than November first of the current year.

Department of Electrical Engineering

PROFESSOR BRACKETT, MR. HOY

The purpose of the work offered in electrical engineering is to impart to the student a practical knowledge of the principles of applied electricity. A well equipped laboratory is provided for the use of the student to supplement the lecture and recitation work of the class room. The laboratory equipment consists of generators and motors of both direct and alternating types, transformers and measuring instruments of different types and classes for the recording and measuring of current, pressure and speed. A sixty-cell storage battery is used in connection with the work in photometry. Various types of lamps, arc and incandescent, lamp banks, rheostats, and other apparatus are also available.

The student will be taught how to set up and adjust for the best conditions of operating all the usual types of dynamos, motors, transformers and standard auxiliary apparatus. Much additional laboratory work will be given to develop a clear understanding of the fundamental principles involved in the design of modern electrical machinery and in the most advanced engineering practice. The knowledge to be derived from much of this work is very important in the practical operation of electrical machinery and systems, but it cannot be obtained directly under the conditions of commercial service, where most of the apparatus must be used in one way only at all times.

The following courses are offered:

1. Electricity and Magnetism. Three recitations and two laboratory periods a week, first semester; required in the junior year of the Electrical and Mechanical Engineering Courses, and in the senior

year of the Civil Engineering Course; prerequisite, Mathematics 7,8 and 9, Physics 4. This subject embraces a study of the theory and principles of static and current electricity, magnetism and the magnetic circuit, electro-magnetic induction and laws of the electric circuit, primary batteries, principles of telegraphy and the telephone.

2. Electrical Measurements. One laboratory period per week, second semester; required in the junior year of the Electrical Engineering Course; prerequisite, Electrical Engineering 1. Instruction and practice in the use, care and standardization of ammeters, voltmeters, wattmeters, resistance standards, Wheatstone bridges, potentiometers, sensitive galvanometers and standard cells. Estimation of the accuracy and reliability of different methods of testing, the correction and elimination or errors.

3. Dynamo Electric Machinery. Three recitations and two laboratory periods a week, second semester; required in the junior year of the Mechanical and Electrical Engineering Courses, and for the fifth year degree in Civil Engineering; prerequisite, Mathematics 11, Physics 4, and Electrical Engineering 1. Theory of the magnetic circuit, magnetic induction in iron, principles underlying the design, construction and operation of generators and motors. Resistance and insulation tests, experimental study of the operation and behavior of different types of motors and generators, efficiency tests.

4. Alternating Currents. Three recitations and two laboratory periods a week, first semester; required in the senior year of the Electrical Engineering Course, also for the fifth year degree in Mechanical Engineering; prerequisite, Mathematics 11, Physics 4, and Electrical Engineering 1 and 3. Study of the flow of alternating currents, inductance, capacity, principles of construction of alternating currents generators and motors, transformers; measurement of inductance and capacity, wave form of pressure and current, efficiency tests of machines and transformers.

5. Dynamo Design. Three laboratory periods a week, first semester; required in the senior year of the Electrical Engineering Course; prerequisite, Mathematics 11, Physics 4 and Electrical Engineering 1 and 3. In this the student works out the design and makes drawings for a shunt or compound wound direct current generator or motor. The object of this course is to teach the theory of design of machines and to familiarize the student with the details and parts of the machine in relation to each other and to the machine as a whole.

6. Electric Light and Power Distribution. Three recitations and two laboratory periods a week, second semester; required in the senior year of the Electrical Engineering Course; prerequisite, Mathematics 11, Physics 4 and Electrical Engineering 4. A study of transmission lines, resistance and inductance effects in line circuits, kinds

of apparatus used in the generating station and in the receiving station, arc and incandescent lamps, special forms of lamps, indicating and recording instruments, laboratory work along the lines of lamp testing and the calibration of instruments.

7. Polyphase Currents. Three recitations and two laboratory periods a week, first semester; required for the fifth year degree in Electrical Engineering; prerequisite, all work required for the Bachelor's degree in this department. A study of polyphase currents, machines, transmission systems and measuring apparatus; experimental work in connection with polyphase currents.

8. Electrical Design. Three laboratory periods a week, first semester; required for the fifth year degree in Electrical Engineering; prerequisite, all the work required for the Bachelor's degree in this department. A study of the design of transformers, alternating current generators, induction motors, or some special kinds of apparatus, and the principles involved in the construction of the above.

9. Power Stations. Two recitations and three laboratory periods a week, second semester; required for the fifth year degree in Electrical Engineering; prerequisite, Electrical Engineering 7 and 8. A study of the different types of stations, arrangement of boilers, engines, machines, switchboards and electrical apparatus, location of station with respect to distributing system; station operation and maintenance. A station design is worked out by the student and drawings of plans made, while according to circumstances, more or less of the laboratory time will be spent on experiments and tests relating to plant operation and control.

10. Long Distance Transmission. Two recitations or lecture periods per week, second semester; required for the fifth year degree in Electrical Engineering; prerequisite, Electrical Engineering 1 to 7 inclusive. Study of long distance line construction, protective apparatus, switchboards, cutouts, regulating devices, etc., as exemplified in the latest practice; study of recent construction and installations, and application of theory. Present construction and installations, and application of theory. Present theoretical and practical limitations to efficient and profitable distribution over large areas, and the possibilities of future development.

11-12. Thesis. Two or three hours a week, first and second semesters. A complete investigation of some electrical subject or apparatus or the design of a machine or other electrical appliance, containing when possible the results of personal and independent observation. The subject must be selected early in the year (not later than November first,) and reports submitted from time to time concerning the progress of the work to the professor in charge.

Department of Civil Engineering

PROFESSOR DERR

The course in civil engineering is designed to impart to students general and technical knowledge, so that, equipped with their theoretical education and as much of engineering practice as can well be acquired in college, they may develop into successful practitioners.

It is aimed to give as thorough a preparation as time will permit in the following subjects: the surveying of land, location and construction of roads, railroads, canals and water works; the construction of foundations in water and on land, and of superstructures and tunnels; the application of mechanics, graphical statics, and descriptive geometry to the construction of various kinds of arches, trusses, roofs, and bridges; the sewerage of towns, and the irrigation and reclaiming of land; the preparation of detail drawings, and plans and specifications; the laws of construction as related to contracts, bids and bidders; political economy for the purpose of making clear the economic value of the civil engineer as a director of industrial enterprises.

1. Surveying. Five periods of recitation and field work a week, second semester; required in the freshman year of the Civil Engineering Course; prerequisite, Mathematics 9. General principles and fundamental operations; instruments; the declination of the magnetic needle; laying out, parting off and dividing up land; United States land surveys. Text: Tracy's Plane Surveying.

2. Surveying. Two periods of recitation and field work a week, second semester; required in the Agricultural, Mechanical Engineering and Electrical Engineering Courses; elective in the General Science Course, freshman year. An abridged course for other students in engineering and agriculture, along the lines of Civil Engineering 1.

3. Surveying. Five periods of recitation and field work a week, first semester; required in the sophomore year of the Civil Engineering Course. A continuation of Civil Engineering 1. Leveling, higher surveying; adjustment of instruments; topography and exploratory surveying; plane and tachymetric surveying.

4. Topographical Surveying. Two periods of recitation and field

work a week, second semester; required in the sophomore year of the Civil Engineering Course; prerequisite, Civil Engineering 1. Triangulation, precise leveling. Transit stadia lines, connecting with triangulation stations, form the basis for the topography, and plane-table practice is given in filling in the details. Maps are plotted to scale from the co-ordinates of the stadia lines, adjusted to the triangulation, and contours are drawn. Recitations, field work, computations and drawings. Text: Wilson's Topographical Surveying.

5. Hydraulics. Three recitations a week, first semester; required in the junior year of the Civil Engineering Course, in the senior year of the Mechanical and Electrical Engineering Courses; prerequisite, Mathematics 11. Hydrostatics and theoretical hydraulics; study of flow through orifices, tubes, pipes, over weirs, in conduits, canals and rivers; application in engineering, water-power plants and development. Text: Merriman's Hydraulics.

6. Geodesy. Three periods of recitation and field work a week, second semester; required in the junior year of the Civil Engineering Course; prerequisite, Mathematics 11 and Civil Engineering 1. Construction and use of instruments with reference to the elimination of instrumental errors; precise leveling; methods of sounding; development of the method of least squares, with application to survey problems and to the adjustment of a triangulation. Text: Crandall's Geodesy and Least Squares.

7. Water Supply. Two recitations a week, second semester; required in the junior year of the Civil Engineering Course; prerequisite, Civil Engineering 5. The design, construction, operation and management of municipal water supply systems. Text: Turneaure and Russell's Public Water Supplies.

8. Irrigation. Two recitations a week, second semester; required in the junior year of the Civil Engineering Course; prerequisite, Civil Engineering 5. The principles underlying the design and construction of irrigation works; hydrography, canals, storage reservoirs. Text: Wilson's Irrigation Engineering.

9. Masonry and Foundations. Two recitations a week, second semester; required in the senior year of the three Engineering Courses; prerequisite, Mathematics 11 and 13. Building stone, retaining and reservoir walls and dams, arches; mechanics of masonry construction; foundations on land and water; coffer dams, caisson and crib dams; pneumatic caissons. Text: Baker's Masonry Construction.

10. Sewerage. Two recitations a week first semester; required in the senior year of the Civil Engineering Course. A study of the design, construction and operation of sewer systems, and of the various methods of sewerage disposal; water purification. Text: Folwell's Sewerage.

11. Roads and Pavements. Two recitations a week, first semester; required in the senior year of the Civil Engineering Course. Construction and maintenance of city streets and country roads; study of pavements and paving materials. Text: Baker's Roads and Pavements.

12. Contracts and Specifications. Two recitations a week, first semester; required in the senior year of the Three Engineering Courses. Synopsis of the law of contracts as applied to engineering construction; study of typical contracts and specifications; riparian rights, boundary lines, survey descriptions, etc. Text: Johnson's Engineering Contracts and Specifications.

13. Railroad Engineering. One recitation and two periods of field work a week, second semester; required in the senior year of the Civil Engineering Course, and for the fifth year degree in Mechanical and Electrical Engineering; prerequisite, Civil Engineering 1. The field work includes the laying out of curves and the staking out of structures, in addition to making the reconnaissance, preliminary and location surveys for a short line of railway; recitations, lectures, field work and drawing. Text: Raymond's Elements of Railroad Engineering.

14. Dam and Reservoir Design. Two laboratory periods a week, second semester; required in the senior year of the Civil Engineering Course; prerequisite, Civil Engineering 5, and Mathematics 11 and 13. The study of modern hydraulic construction; dams, reservoirs, conduits, levees, etc. Structures relating to water power, canals and irrigation.

15. Structural Design. Five periods of recitation and laboratory work a week first semester; required for the fifth year degree in Civil Engineering; prerequisite, Mathematics 11, Mechanical Engineering 6. Computation of stresses in roof and bridge trusses; highway and railroad bridge trusses; center of gravity and moment of inertia. Text: Merriman and Jacoby's Roofs and Bridges, Parts I and II.

16. Structural Design. Three laboratory periods a week, second semester; required for the fifth year degree in Civil Engineering; prerequisite, Civil Engineering 15. Principles of economic design; design of plate girder bridge, pin bridge, riveted bridge; continuous bridges, draw bridges, cantilever bridges, suspension bridges, arches; building construction. Text: Merriman and Jacoby's Roofs and Bridges, Part III.

17. Hydraulic Motors. Three recitations a week, first semester; required for the fifth year degree in Civil Engineering; prerequisite, Civil Engineering 5. A study of reaction turbines and impulse wheels; construction, regulation, testing sources of loss of energy. Text: Church's Hydraulic Motors.

18. Reinforced Concrete. Three recitations a week, first semester; required for the fifth year degree in Civil Engineering; prerequisite, Mathematics 13, Mechanical Engineering 16. A study of reinforced concrete construction, including investigation of stresses and the determination of form and proportions; recitations, computations, and drawing.

19-20. Thesis. Two and three hours a week, first and second semester; required for the fifth year degree in Civil Engineering. The thesis is intended to show the student's ability to apply the fundamental principles acquired in this course, in original investigation or design of some engineering structure, the student working independently and making regular reports showing the progress of the investigation or design to the professor having charge of the subject. The subject and the plan of the work should be submitted to the professor in charge not later than November first of the current year.

Department of English

PROFESSOR BATES, ASSOCIATE-PROFESSOR POWERS

The aim of the department is two-fold: to train the student in the effective use of the English language in original composition, and to give him an intelligent appreciation of English literature.

For a description of English 1 to 8, see the preparatory department.

9. Rhetoric. Three recitation periods a week, first semester; required of all freshmen; prerequisite, the English of the preparatory department. Much practice in composition. The work is supplemented with reading.

10-11-12. English Prose from Johnson to Stevenson. Three recitation periods a week, second semester; required in the sophomore year of the General Science and the Home Economics Courses. A study in literature with especial emphasis upon the forms of prose, and with practice in composition.

Note—The remaining subjects in English are elective, except that juniors in the General Science and Home Economics Courses are required to take 13 and 14, or 15 and 16, or 19 and 20. Subjects 13 and 14 are given in alternate years with 15 and 16, 13 and 14 being given in 1912-1913. English 9 and 10 form the prerequisite to all the elective courses, which are open in general to either juniors or seniors.

13. English Poetry from 1798 to 1832. Three recitation periods a week, first semester. See note above. A study of Wordsworth and his contemporaries.

14. English Poetry from 1832. Three recitation periods a week, second semester. See note above. A study of Tennyson, Browning and their contemporaries.

15. English Literature from Beowulf to Milton. Three recitation periods a week, first semester. See note above. A special study is made of Chaucer; attention is also given to the development of the language.

16. Shakespeare and the Drama. Three recitation periods a week, second semester. See note above.

17-18. The English Novel. Two recitations a week, throughout the year. Owing to the large amount of reading the course counts as three hours credit each semester. See note above.

19 and 20. Bibical Literature and History. Two recitation periods a week throughout the year; elective in the junior or senior year of the General Science Course.

21. Argumentation and Debating. Three recitation periods a week, first semester; elective in the junior or senior year of the General Science Course. A study of the pirnciples of argumentation, with practice in brief writing and debating.

22. Argumentation and Debating. Three recitation periods a week, second semester; elective to the same class as English 21. A continuation of English 21. Special attention is given to team debating and the building of complete arguments.

Department of Modern Languages

PROFESSOR CONDIT

Students who pursue work along scientific, technical or historical lines are virtually compelled to have at least a good reading knowledge of either French or German, while it is becoming generally recognized that they should have both.

In the General Science, the Home Economics and the Pharmacy Courses either French, German or Latin, and in the Agriculture Course, either French or German is required during the freshman and the sophomore years. In the Engineering Courses French is required during the sophomore year. Higher work is elective and the student is strongly advised to take a third year, if possible, of the language chosen.

GERMAN

1. German. Four recitations a week, first semester; elective in the freshman year according to the above requirements. German grammar, prose and composition; constant drill in pronunciation, occasional memorizing of selected passages, and practice in speaking German. Reading is begun early. Text: Bacon's Grammar.

2. German. Four recitations a week, second semester. Continuation of German 1.

3. German. Four recitations a week, first semester; elective in the sophomore year according to the above requirements. Historical and other prose and poetry of the last century; composition and conversation. Text: Joynes-Meissner's Grammar.

4. German. Four recitations a week, second semester. Continuation of German 3. In addition there will be extensive reading of scientific German. Text: Wait's German Science Reader.

5. German. Three recitations a week, first semester; elective in the junior or senior year of the General Science Course, and in the senior year of the Home Economics Course. Lessing and Schiller, with a review of German literature up to their time. Nathan der Weise and Emilia Galotti, Die Jungfrau von Orleans and Wilhelm Tell. Themes and collateral reading.

6. German. Three recitations a week, second semester; elective in the same classes as German 5, of which it is a continuation. Goethe's life and works; Goethe and Schiller; Goethe and Carlyle; influence upon German and English literature. Faust, selected portions from both parts; Dichtung und Wahrheit or Goetz von Berlichingen. Themes and collateral reading.

FRENCH.

1. French. Four recitations a week, first semester; elective in the freshman year according to the above requirements. French grammar, prose, and composition. Thorough drill in pronunciation; reading and practice in speaking begun very early. Texts: Fraser and Squair's Grammar; Le Tour de la France par deux Enfants.

2. French. Four recitations a week, second semester. Continuation of French 1. Dictation exercises, memorizing of selected passages, conversation. Text: Super's Reader.

3. French. Four recitations a week, first semester; elective in the sophomore year according to the above requirements. Hugo, Balzac, De Musset, and other nineteenth century writers; collateral reading and conversation.

4. French. Four recitations a week, second semester. Continuation of French 3. In addition there will be extensive reading of scientific French, with Luquiens' Popular Science for text-book.

5. French. Three recitations a week, first semester; elective in

the junior or senior year of the General Science Course, and in the senior year of the Home Economics Course. Corneille, Racine, La Fontaine; their lives and works; their influence on their contemporaries; the literature and society of their time. Themes and collateral reading.

6. French. Three recitations a week, second semester; open to those who have completed Frenh 5. Moliere and Voltaire; their lives and writings; their influence on French and English thought; how they were influenced by English writers, particularly Shakespeare. Themes and collateral reading.

Department of History and Political Science

PROFESSOR HARDING

The aim of this department is to introduce the student to such studies as may enable him to deal with economic problems and to fulfill his social and political duties; to develop in him the power to use critically and constructively the historical method, and especially to awaken in him an interest in the great field of history and political science and an enthusiasm for personal individual effort. Constant endeavor is made to teach the practical application of the social, political and economic experiences of the race to the problems of modern life.

The text-book is supplemented by lectures and class discussions based upon assigned readings or the original work of students. Students are encouraged in every way to make use of the college library, which is the tool house of this department.

For description of History 1 to 6, see the preparatory department.

7. Medieval History. Three recitations a week, first semester; required in the junior year of the General Science and Home Economics Courses. A general survey of the history of Europe from the barbarian invasions to the close of the fifteenth century. Lectures, text-books, papers, reports and practices in application of the fundamental principles used in testing the value of historical material. Text: Robinson's History of Western Europe.

8. Modern History. Three recitations a week, second semester; required of the same classes as History 7, of which it is a continuation. History of Europe from the opening of the sixteenth century to the present time.

9. American History. Three recitations a week, first semester; elective in the junior or senior year of the General Science Course, and in the senior year of the Home Economics Course; prerequisite, History 7 and 8. A study of constitutional and political development from 1783 to 1829. Lectures, library work, reports, and careful study of assigned sources. Omitted in 1912-1913.

10. American History. Three recitations a week, second semester; elective in the same classes as History 9, of which it is a continuation. The constitutional and political history of the United States from the beginning of Jackson's administration to the Civil War. Omitted in 1912-1913.

11. Nineteenth Century History. Three recitations a week, first semester; elective in junior or senior year of the General Science Course, and in the senior year of the Home Economics Course; prerequisite, History 7 and 8. A study of national development and of international relations between 1815 and 1870, prefaced by a brief survey of the French Revolution and Napoleonic Empire. A detailed study of the Restoration, the Revolution of 1848, the Unification of Italy and the formation of the German Empire.

12. Nineteenth Century History. Three recitations a week, second semester; elective in the same courses as History 11, of which it is a continuation; prerequisite, History 11. The international development of the European nations and their international relations since 1870. In this course particular attention is paid to present day question of European politics.

13. American Government. Three recitations a week, first semester; elective in the junior or senior year of the General Science Course. An advanced study of federal, state and local government in theory and practice. Lecture, text- book, collateral readings in standard authorities, and the preparation of reports upon assigned subjects.

14. American Politics. Three recitations a week, second semester; elective in the junior or senior year of the General Science Course. A study of the rise, organization and operation of political parties, and of party problems in the United States. This course includes a careful study of party platforms. Text: Woodburn's Political Parties and Party Problems, supplemented by Macy's Party Organization and Machinery, and Bryce's American Commonwealth.

15. Economics. Three recitations a week, first semester; required in the senior year of all the four year courses except the Pharmacy Course. A study of the fundamental laws of economic science. Text -book, supplemented by lectures on special subjects and assigned readings.

16. Sociology. Three recitations a week, second semester; re-

quired in the senior year of the Home Economics and General Science Courses. The fundamental principles of social science. Text-book, supplemented by lectures and special reports.

17. Social Psychology. Two recitations a week, first semester. A study of those uniformities in feeling, belief, or volition, which are due to social causes; suggestibility; the crowd; mob mind; fashion; conventionality imitation; custom imitation; rational imitation; interference and conflict; discussion; sane and rational individuality. Text-book, reading and reports.

18. Agricultural Economics. Two recitations a week, second semester; elective in the senior year of the Agriculture Courses and in the junior and senior years of the General Science Course. The economic elements in the production and distribution of agricultural wealth, the agricultural market, determination of price, speculation, business co-operation, credit facilities, ownership and tenancy, farmers' organizations, the farmer and legislation, problems of rural social life, the relation of the farmer to the state. Lectures, readings and reports.

Department of Philosophy

PROFESSOR RODEHEAVER

The aim of this department is, in the elementary courses, to give the student some knowledge of the conditions and methods which give the most efficient results in study; in the junior courses, to give a general knowledge of the facts and laws of experience, with special emphasis upon the intimate relations of mind and body and the practical significance of these facts and laws in every day life. The prevailing theories of conduct are studied with chief attention toward encouraging a wholesome view of the leading problems of life which make for the fullest and most efficient living. The study of education may yield large value to every student, but these courses are designed primarily for those who expect to teach.

1. Logic. Two recitation periods a week, first semester; required in the freshman year in all the courses leading to the Bachelor's degree. This is an elementary course and consists chiefly of lectures with exercises for developing clearness and accuracy in thinking.

2. Logic. Two recitation periods a week, second semester; re-

quired in the same courses as 1, of which it is a continuation, with the addition of exercises in inductive reasoning based upon psychological observations and analysis.

3. Psychology. Three recitation periods a week, first semester; required in the junior year of the Agriculture, Home Economics and General Science Courses. The structure and function of the nervous system. Discussion of the different phases of mental activity. especially their origin and function. Class room discussions based upon Angell's Psychology, supplemented by assigned readings, lectures, demonstrations, and experiments.

4. Ethics. Three recitation periods a week, second semester; required in the junior year of the Agriculture, Home Economics and General Science Courses; prerequisite, Philosophy 3. The beginning and development of different views of the moral life; phychological basis; theories of the moral standard; institutions of the moral life; practical problems in private and public morality. Course consists of lectures, discussions, and reports on assigned topics; based upon such texts as Dewey and Tufts, Paulsen, Bowne, and Mackenzie.

5. History of Education. Three recitation periods a week, first semester; elective in the senior year of the Home Economics, Agriculture and General Science Courses; prerequisite, Philosophy 3. Development of aims and methods of education from primitive peoples to modern times, noting their relation to contemporary philosophy and social life. Lectures, discussions and reports on assigned topics; based upon Monroe, Davidson, Kemp and others.

6. The Principles of Education. Three recitation periods a week, second semester; elective in the senior year of the Home Economics, Agriculture and General Science Courses; prerequisite, Philosophy 3 and 5. The aim of this course is to give the student a knowledge of psychological principles as applied to education, rather than to study details of methods. An effort is made to reveal the essential nature and function of education and the kind of technique necessary to secure the best results in teaching. Lectures, discussions and reports; based upon texts of Ruediger, Bagley, Hall, O'Shea and others.

7. Public Speaking. Three recitation periods a week, first semester; required in the sophomore year of the General Science Course. A study of the fundamental conditions for effective speaking, approached from the psychological standpoint, but most attention is given to the study of selected speeches and the delivery of declamations.

8. Public Speaking. Two recitation periods a week, second semester; required of the same class of students as 7, of which it is a continuation. Chief attention is given to practice in extempore speaking.

Department of Mathematics and Astronomy

PROFESSOR BROWN, MR. CROTHERS

The general work of this department is planned to cultivate habits of systematic and accurate thinking, as well as facility in making calculations. Independent effort is encouraged to the greatest possible extent, the solutions of problems and original demonstrations forming an important part of each course.

The class work in general astronomy is supplemented by the use of instruments in the observatory. These include a six-inch equatorial telescope, a transit instrument, a sidereal clock and a chronograph.

For description of Mathematics 1 to 6, see the preparatory department.

7. Solid Geometry. Three recitations a week, first semester; required in the Pharmacy and Engineering Courses, elective in the General Science Course, freshman year; prerequisite, Mathematics 6. All the important principles of the subject will be covered. Text: Sanders' Plane and Solid Geometry.

8. College Algebra. Three recitations a week, second semester; required in the Pharmacy and Engineering Courses; elective in the General Science Course, freshman year; prerequisite, Mathematics 4. Graphs, permutations and combinations, complex numbers, elementary theory of equations, determinants, partial fractions.

9. Plane Trigonometry. Two recitations a week, first semester; required in the freshman year of the Pharmacy, Agriculture and Engineering Courses; elective in the freshman year of the General Science Course; prerequisite, Mathematics 6. The elementary notions of trigonometry; solutions of plane triangles.

10. Plane and Spherical Trigonometry. Two recitations a week, second semester; required in the Engineering Courses, elective in the General Science Course, freshman year; prerequisite, Mathematics 8 and 9.

11. Analytic Geometry Five recitations a week, first semester; required in the Engineering Courses, sophomore year; elective in sophomore, junior or senior year, General Science Course; prerequisite, Mathematics 8 and 9.

12. Calculus. Five recitations a week, second semester; required in the sophomore year of the Engineering Courses, elective in the sophomore, junior or senior year, General Science Course; prerequisite, Mathematics 11. Continuation of Mathematics 11.

13. Analytic Mechanics and Calculus. Five recitations a week,

first semester; required in the junior year of the Engineering Courses, elective in the junior or senior year of the General Science Course; prerequisite, Mathematics 12. The application of analytic geometry and calculus to the solution of mechanical problems.

14. Analytic Mechanics. Three recitations a week, second semester; required in the junior year of the three Engineering Courses; elective in the junior or senior year, General Science Course. Continuation of 13.

15. General Astronomy. Four recitations a week, second semester; required in the senior year of the General Science, Home Economics and Engineering Courses; prerequisite, Mathematics 6. The text will be covered and frequent use made of the instruments. Text: Young's Manual of Astronomy.

Department of Physics

PROFESSOR MATHEWS, MR. HOY

From the fact that physics is one of the foundation sciences and that a knowledge of its laws is necessary to every student seeking a scientific training, the department has been well fitted with rooms and appliances to provide this training. Its lecture rooms are well provided with arm-rest chairs. The laboratories are well lighted and provided with non-vibratory piers. Water, gas and electricity are provided for the recitation rooms and the dark room and laboratories.

This department is housed in the engineering and physics building. Its facilities and equipment for instruction are equal to those of any in the Northwest.

The laboratory equipment includes such expensive pieces as analytical balances, laboratory clock making electrical contact every second, cathetometer, spectroscopes, microscope, photometers, stereopticon and reflectroscope (arc light), standard cells, dynamos, electrometers, transformers, galvanometers, storage battery, induction coils, ammeters, magnetometers, voltmeters, wattmeters, Wheatstone bridges, polariscope, quadrant electrometer, lathe and wireless telegraphy and X-Ray apparatus.

The following subjects are offered in this department:

For a description of Physics 1 and 2, see the preparatory department.

3. General Physics. Three recitations and two laboratory periods a week, first semester; required in the sophomore year of the Engineering and Pharmacy Courses, in the junior year of the veterinary group, Agriculture Course; elective in the sophomore, junior or senior year of the General Science Course. Young ladies following the General Science Course may elect Home Economics 4 and 7 instead of Physics 3; prerequisite, Physics 2 and Mathematics 9. Mechanics of solids and fluids and heat with numerous examples. Static electricity and magnetism. Exact measurements of mass, distance, time, calorimetry, etc.; study of electrical and magnetic fields. Texts: Hasting and Beach; Austin and Thwing.

4. General Physics. Three recitations and two laboratory periods a week, second semester; required and elective in the same courses as Physics 3; young ladies pursuing the General Science Course may elect Home Economics 3 instead of Physics 4; prerequisite, Physics 3. Electricity and its applications in the dynamo, motor and transformer, electric light and study of electrical and magnetic fields; nature and velocity of sound, refraction and reflection of light, interference and color, laboratory work on topics mentioned. Texts: Hasting and Beach; Austin and Thwing.

5. Advanced Physics. Four recitations and one laboratory period a week, first semester; elective in the junior or senior year of the General Science Course; prerequisite, Mathematics 12 and Physics 4. Mechanics, kinematics, kinetics, mechanics of fluids and heat and its application; magnetism, static electricity, electrolysis, laboratory work and measurements covering topics mentioned. Texts: Nichols and Franklin, Vols. 1 and 2; Nichols' Laboratory Guide.

6. Advanced Physics. Four recitations and one laboratory period a week, second semester; elective to the same class as Physics 6. Induction currents, primary batteries, electric oscillations and waves, nature and motion of sound, physical theory of music, nature and propagation of light, refraction, reflection, interference, color and polarization; laboratory work. Texts: Nichols and Franklin, Vol.3; Nichols' Laboratory Guide.

7. Heat. Three recitations and one laboratory period a week, first semester; elective in the senior year of the General Science Course; prerequisite, Physics 5. Sensibile and latent heat, dynamical generation of heat, thermometry, calorimetry, specific heat, atomic and molecular heat capacities, evaporation, ebullition, vapor densities, cooling, diathermacy, conductivity and dynamical equivalent of heat, laboratory work covering topics mentioned. Text: Preston's Theory of Heat; Maxwell's Heat.

8. Light. Three recitations and one laboratory period a week,

second semester; elective to the same classes as Physics 7, of which it is a continuation. Shadows and images, spectrum, velocity of light, color, phosphorescence, fluorescence, diffraction, measuring waves, prisms and polarization; laboratory work. Text: Preston's Light.

Department of Botany and Plant Pathology

PROFESSOR OLIVE, MR. SARVIS

In the work of this department, the structure, physiology, classification and pathology of plants, and the fundamental problems of cell structure and functions are studied, as well as the direct application of botanical science to pharmacy and agriculture. This work also helps to serve as foundation for courses in forestry, plant breeding, plant pathology, etc.

The instruction aims primarily to develop the powers of accurate observation and the ability to draw correct conclusions.

Both the elementary and advanced laboratories are well equipped with microscopes and other necessary apparatus for carrying on advanced or original research work. The department also has fairly complete and convenient herbaria of the flowering plants and fungous flora of the northern United States.

1. General Botany. Two lectures or recitations and three laboratory periods a week, first semester; required in the sophomore year of the Agriculture, Home Economics and Pharmacy Courses, elective in the sophomore year of the General Science Course; prerequisite, the work of the freshman year. The general principles of biology as illustrated by plants; a study of the life histories of types of plants, including their physiology and systematic relations.

2. General Botany. Two lectures or recitations and three laboratory periods a week, second semester; required and elective in the same courses as Botany 1, of which it is continuation; prerequisite, Botany 1.

3. Economic Botany. Three recitation or lecture periods a week, second semester; required in the sophomore year of the botany group, Agriculture Course; elective in the General Science and Home Economic Courses.

4. Plant Physiology. Three recitation and laboratory periods a week, first semester; required in the junior year of the botany group,

Agriculture Course; elective in the same courses as Botany 3; prerequisite, Botany 1 and 2.

5, 6. Mycology and Plant Pathology. Two laboratory and lecture periods a week throughout the year; required and elective in the same classes as Botany 4; prerequisite, Botany 1 and 2. Morphology and classification of the fungi. The plant diseases of economic importance are especially emphasized, together with the methods of prevention or of treatment.

7. Taxonomy of Pteridophytes, Gymnosperms and Angiosperms. Five recitations and laboratory periods a week, second semester; required and elective in the same classes as Botany 4; prerequisite, Botany 1 and 2. The systematic arrangement and classification of the ferns and their allies, and especially of the higher flowering plants. The structure and relationships of weeds, grasses and grains, and other plants of economic importance will be emphasized in the course.

8, 9. Cytology and Botanical Microtechnique. Five recitation and laboratory periods a week, throughout the year; required in the senior year of the botany group, Agriculture Course; elective in the senior year of the General Science Course and in the horticulture, dairy husbandry and agronomy groups of the Agriculture Course; prerequisite, Botany 1, 2 and 4. Lectures, recitations and laboratory work on the general activities, reproduction and nutrition of the plant cell. The theoretical bearing of the subject on heredity, plant breeding, etc. Methods of imbedding, sectioning and staining.

10. Pharmacognosy. Five recitation and laboratory periods a week, second semester; required in the junior year of the Pharmacy Course; prerequisite, Botany 1. The sources, characteristics, histology, identification, etc., of the common drugs.

11, 12. Investigation and Thesis. Three laboratory periods the first semester and five the second semester; required in the senior year of the botany group, Agriculture Course.

Entomology and Nature Study

PROFESSOR SEVERIN

The work of this department is conducted by means of lectures, recitations, laboratory and field work. The student is thus afforded not only an opportunity to gain familiarity with the principles and theories discussed in the class room, but is also encouraged to put these theories to the test and verify the principles in the field. In the way of illustrative material, in addition to the general museum and the entomological collections, there are a number of charts, a large number of lantern slides, microscopic slides, and alcoholic and formalin preparations. The botanical department is well provided with all the apparatus necessary for biological work and the equipment will be available for use in this department.

For description of Entomology 1 and 2, see the preparatory department.

3-4. General Entomology. One recitation and one laboratory period a week during the first semester and two recitation and two laboratory periods during the second semester; required in the junior year of the Agriculture Course; elective in the junior year of the General Science Course. A general course dealing with the anatomy, physiology, classification and life history of insects. The work of the second semester will be devoted in part to a discussion of some of the more important insect pests and methods of controlling them. This course is designed as an introduction to the practical work in economic entomology offered in courses 5 and 6 and to the systematic work offered in courses 7 and 8.

5-6. Economic Entomology. One lecture period and one laboratory period a week throughout the year; elective in the senior year of the General Science Course, and in the horticulture, botany and agronomy groups, Agriculture Course; prerequisite, Entomology 3 and 4. A detailed study in the field and lecture room of the chief economic species of insects with a study of insecticides and spraying machinery. The student will be given an opportunity of preparing sprays and gases used in combating insect pests and demonstrations will be offered in the practical application of the same.

7-8. Systematic Entomology. Two laboratory periods a week throughout the year; elective in the senior year of the General Science Course. This course, while primarily entomological, is designed to be of general use to students of biology. It has for its object not only to get the student acquainted with the more common forms of insect life, but is also designed to give the student an idea of the aims and methods of classification. Each student will be required to do his own collecting and mounting of insects; the collections of the department will be available to the student at all times for reference work.

9. Household Insects. Two lectures a week, second semester; elective in the senior year of the Home Economics Course. The household insects and related animals that are of economic importance will be especially emphasized in this course, together with methods of extermination.

10. Insects and Disease. Two lectures a week, first semester; elective in the senior year of the Home Economic Course and in the junior and senior year of the General Science Course. The greater share of the semester will be devoted to a discussion of the diseases which are disseminated through the insects and which affect man.

11. Ornithology. One lecture and one laboratory period or field excursion a week, second semester; elective in the senior year of the Home Economics Course and in the junior or senior year of the General Science Course. The lectures will deal with the various phases of bird life; the laboratory periods are designed to acquaint the student with the anatomy of various types of birds; while the field work will be devoted to studying the birds as they are found in the field, particularly with reference to their field identification, feeding and nesting habits. Each student should provide himself with a field or opera glass and a copy of Florence Merriam Bailey's Handbook of Birds of Western North America.

12. Nature Study. Three recitations a week, first semester; elective in the junior or senior year of the General Science Course and in the senior year of the Home Economics Course. This course is intended primarily for those who expect to teach in the public or high schools. Its object will be to give the nature-point of view and it will be a discussion of methods and materials as well as a course in elementary science treated from the biological side.

Department of Zoology

PROFESSOR MILLER

The work offered in this department is designed, first, to give the student a general knowledge of the principles of animal biology; second to give especial attention to technique and to the development of originality in the individual. Students contemplating the study of medicine may by a judicious selection of subjects in this and other departments secure an equivalent of the first year's work offered by the medical colleges.

The department is adequately equipped with specimens and apparatus, to which frequent additions are made.

For description of Zoology 1 and 2, see the preparatory department.

3, 4. General Zoology and Physiology. Two recitations and three laboratory periods a week, first and second semesters; required in the sophomore or junior year of the Agriculture Course, and in the junior year of the Home Economics Course; elective in the sophomore, junior or senior year of the General Science Course; prerequisite, Art 1 and all the subjects below the sophomore year.

a. General Zoology. A study of type forms of invertebrates and vertebrates, and the elements of histology and embryology. Texts and references: Hertwig's Manual of Zoology; Parker and Haswell's Text-book of Zoology; Lange's Comparative Anatomy.

b. Physiology. This subject continues throughout the last half of the second semester. Lectures, recitations, demonstrations, and required readings in advanced human physiology. Texts and references: Thornton's Human Physiology; American Text-book of Physiology; Landois' Human Physiology; Verworn's General Physiology.

Note—Students of Agriculture are required to take Veterinary 7 in place of Human Physiology during the last half of the second semester.

5, 6. Anatomical Methods. Three recitations and two laboratory periods a week, first and second semesters; required in the junior year of the Pharmacy Course. This subject is intended to acquaint students preparing for the study of medicine with anatomical nomenclature, and methods of dissection. It includes the study of the anatomy of the cat, with special reference to Physiology. Texts: Davidson's Mammalian Anatomy; Riegart and Jennings' Anatomy of the Cat; Morris' Human Anatomy.

7, 8. Histology. Five recitations and laboratory periods a week, first and second semesters; required in the senior year of the veterinary group, Agriculture Course, elective in the junior or senior year of the General Science Course; prerequisite, Zoology 3 or 5. The structure of the cell and the tissue elements together with microtechnique during the first semester; vertebrate organology, the microscope structure of vertebrates during the second semester. Texts and references: Bohm-Davidoff's Text-Book of Histology; Wilson's The Cell; Stohr's and Szymonowiczs-MacCullum's Text-books of Histology.

9, 10. Embryology. Five recitation and laboratory periods a week, first and second semesters; elective in the junior or senior year of the General Science Course; prerequisite, Zoology 3. This course is designed to meet the needs of those who desire to gain an insight into embryological problems. Besides the study of the development of a number of forms, both vertebrate and invertebrate, the work will include the study of the organization, maturation and fertilization of the egg. Texts and references: Hertwig's Text-book of Embryology; Foster and Balfour's Elements of Embryology. Korscheidt and Heider, Text-book of Comparative Embryology.

11, 12. Comparative Anatomy of the Vertebrates. Five recitation and laboratory periods a week, first and second semesters; elective in the junior or senior year of the General Science Course; prerequisite, Zoology 5 or 7. An elective designed for those students especially interested in anatomy and zoology. Text and references: Wiedersheim's Comparative Anatomy; Flower's Osteology of the Mammalia; Jayne's Mammalian Anatomy ; Huxley's Manual of the Anatomy of the Vertebrate Animals.

Bacteriology. See Department of Veterinary Medicine, course 6.

Department of Chemistry

PROFESSOR SHEPARD, MR. DUNBAR, MR. YOUNGBERG

This department is equipped with the latest and most approved appliances for instruction.

The student upon beginning the subject is assigned a desk in the main laboratory. This desk is supplied with a set of reagent bottles, gas and water fixtures. In addition to these a supply of all needful apparatus, such as test tubes, generating flasks and the like are furnished. The main laboratory, which is located on the first floor of the Chemistry and Pharmacy Building, accommodates sixty-four students all working at the same time.

Upon completing the necessary elementary work the student now finds a quantitative laboratory at his disposal. This laboratory accommodates twenty students working together. It is supplied with all quantitative apparatus, such as precipitation flasks, desiccators, lamps and crucibles.

In connection with the quantitative laboratory is a balance room supplied with high-grade Trœmer quantitative balances. The work is so planned that the student has laboratory work together with didactic instruction throughout the course.

The experiment station laboratories are also located at this college, and their costly and technical appliances and the practical work in constant progress there are within reach for instruction.

1. Elementary Inorganic Chemistry. Five recitations and laboratory periods a week, first semester; required in the freshman year

of all the courses leading to a degree; prerequisite, Physics 2. History of chemistry, elements, compounds, symbols, valence, atomic weights, chemical equations, oxygen, hydrogen, nitrogen, chlorine, bromine, fluorine, iodine, sulphur, phosphorus, silicon and their compounds. Bases, salts, acids and alkalies. The metals and their compounds, separation of metals, groups of metals and uses of their compounds. Detection of the non-metallic elements and their compounds. Text: Shepard's Elements of Chemistry.

2. Elementary Organic Chemistry. Five recitations and laboratory periods a week, second semester; required in the freshman year of all the courses leading to a degree; prerequisite, Chemistry 1. The principal classes of organic compounds, the characteristics and properties of each class and the uses of their various compounds. Detection of principal metals and the working of a list of unknowns; the detection of principal organic compounds. Text: Shepard's Elementary Organic Chemistry.

3. Quantitative Chemistry. Five recitation and laboratory periods a week, first semester; required in the sophomore year of the Agriculture, Home Economics and Pharmacy Courses; elective in the sophomore, junior and senior year af the General Science Course; prerequisite, Chemistry 1 and 2. The apparatus and its uses. Explanations of methods of quantitative determinations and reports of students' analyses. The quantitative analyses of typical chemical compounds, e. g., calcite, magnesium sulphate, metallic ores, coal, etc. Text: Olsen's Quantitative Chemistry.

4. Chemistry and Physiology of Foods. Five recitations and laboratory periods a week, second semester; required in the sophomore year of the Home Economics Course and the chemistry and veterinary groups, Agriculture Course; elective in the junior or senior year of the General Science Course and in the senior year of the dairy husbandry group, Agriculture Course; prerequisite, Chemistry 1, 2 and 3. Food nutrients, chemical characteristics and offices of same, physiology of same, metabolism, balanced rations, standard dietaries. Study of food adulterations. Experiments in digestion of foods, offices of digestive secretions. Detection of adulterants, coloring matter and preservatives.

5. Agricultural and Sanitary Analysis. Five recitations and laboratory periods a week, first semester; required in the senior year of the chemistry group, Agriculture Course; elective in the junior or senior year of the General Science Course, and in the senior year of the dairy husbandry group, Agriculture Course; prerequisite, Chemistry 1, 2 and 3. Analysis of foods, feeding stuffs, dairy products, water, etc. Use and analysis of disinfectants, germicides, etc. Lectures, Official Methods American Association of Official Agricultural Chemists.

6. Agricultural Chemistry. Three recitations a week, second semester; required in the junior year of the animal husbandry group, in the senior year of the chemistry group, Agriculture Course; elective in the junior or senior year of the General Science Course, and in the senior year of the dairy husbandry and agronomy groups, Agriculture Course; prerequisite, Chemistry 1, 2 and 3. Text: Johnson's Agricultural Chemistry.

7. Industrial Chemistry. Three recitations a week, first semester; required in the senior year of the chemistry group, Agriculture Course; elective in the junior or senior year of the General Science Course; prerequisite, Chemistry 1, 2 and 3. Chemistry of manufacturing glass, paper, sugar, petroleum, explosives, acids, water, air, mortars, pigments, photography, alkalies and gases. Demonstrations of examples including water pollution, purification, artificial illumination, petroleum, testing fermentation, air contamination, disinfection, ventilation, bleaches and dyeing. Text: Thorpe's Industrial Chemistry.

Department of Pharmacy

PROFESSOR WHITEHEAD

The work in this department is intended primarily to teach young men and women the science of pharmacy. The work of the preparatory department is prerequisite to the subjects of this department.

The students finishing the two-year course in Pharmacy may receive the degree of Pharmacy Graduate (Ph. G.). This is the only course of the kind offered in the state and receives the hearty commendation of the State Board of Pharmacy.

This department meets both the preparatory and professional requirements of the New York Educational Department with which it is registered in full. It is also a member of the American Conference of Pharmaceutical Faculties.

This line of work offers many inducements to young men. The requests of the druggists of the state for our graduates are far in excess of the supply and the pure food and drug laws have opened up a new field for young men who are competent drug and food assayists.

The two years of pharmacy work may all be applied towards the degree of Bachelor of Science which is given upon completion of the four-year course in Pharmacy. This longer course is recommended to those who intend to take up the study of medicine or dentistry, or who wish to prepare for teaching the sciences in the high schools of the state.

The fees for work in this department are the same as for other college work, *i. e.,* six dollars tuition and two dollars for each laboratory period per semester.

With the exceptions of 10 and 11 the following subjects are all required for both the degree of Pharmacy Graduate and the degree of Bachelor of Science in Pharmacy.

1. Pharmacy Latin. Five recitations a week, first semester, junior year. The subject is taught with special reference to its application in pharmacy. The vocabulary employed is strictly pharmaceutical. Text: Robinson's Grammar of Pharmacy and Medicine.

2. Materia Medica. Five recitations a week, first semester, senior year; also elective in the General Science Course. Medicinal properties, doses and poisonous effects of the various medicines, together with the antidotes which the pharmacist may be required to administer in an emergency, will receive full and careful treatment. Text: Potter's Materia Medica, Pharmacy and Therapeutics.

3. Materia Medica. Five recitations a week, second semester, senior year. Continuation of Pharmacy 2.

4. Pharmacy. Five recitations a week, first semester, senior year; prerequisite, Chemistry 2. Forms and uses of pharmaceutical apparatus, weighing by apothecary and metric systems, specific gravity of solids and liquids, heating apparatus, determination of boiling and melting points, distillation, comminution, solution, precipitation, filtration, crystallization, percolation, and study of official medicines, waters, syrups, mucilages, mixtures, spirits, elixirs, liniments, infusions, tinctures, fluid extracts, oleoresins and extracts. Text: Remington's Practice of Pharmacy.

5. Pharmacy Laboratory. Three laboratory periods a week, first semester, senior year. Preparation of waters, syrups, mucilages, etc., mentioned in Pharmacy 4, and must be taken up in connection with it. Text: Remington's Practice of Pharmacy.

6. Pharmaceutical Problems. Two recitations a week, first semester, senior year. Relationship of metric, apothecary, and imperial systems of weights and measures, specific gravity, specific volume percentage problems, concentration and dilution, alligation and chemical problems. Text: Olberg's Pharmaceutical and Chemical Problems.

7. Pharmacy. Five recitations a week, second semester, senior year; prerequisite, Pharmacy 4 and 5. Official inorganic salts and their compounds, solutions, emulsions, powders, pills, ointments, and plasters; reading prescriptions. Texts: Remington's Practice of Pharmacy, Ruddiman's Incompatibilities in Prescriptions.

8. Pharmacy Laboratory. Five laboratory periods a week, second semester, senior year; prerequisite, Pharmacy 5 and 6. Compounding of prescriptions, making of inorganic salts, solutions, emulsions, powders, pills; reading and compounding prescriptions. Must be taken same term as Pharmacy 7. Texts: Remington's Practice of Pharmacy, Ruddiman's Incompatibilities in Prescriptions, Olberg's 1,500 Prescriptions, National Formulary.

9. Volumetric Analysis and Drug Assaying. Five recitations and laboratory periods a week, second semester, senior year; also elective in the sophomore year of the General Science Course; prerequisite, Chemistry 3. There are at present in the U. S. Pharmacopoeia 149 volumetric and 35 gravimetric assays. In this subject we endeavor to give enough of this work to enable a student to make any of these assays in an intelligent and accurate manner. The students are required to make their own volumetric and indicator solutions. A short course in urine analysis is given in connection with this work. Texts: U. S. Pharmacopoeia, Schimpf's Volumetric Analysis, Lyon's Pharmaceutical Assaying; lecture notes by the teacher.

10. Veterinary Materia Medica. Three recitations a week, second semester; required in the junior year of the veterinary group, Agriculture Course. A study of the medicinal properties, doses, and uses of the principal drugs used in veterinary medicine. Texts: Winslow's Veterinary Materia Medica and Therapeutics.

11. Chemical Toxicology. Five laboratory periods a week, first semester; prerequisite, Pharmacy 3 and 9. Separation and identification of poisons. Texts: Reeses' Medical Jurisprudence and Toxicology, Antenrieth's Detection of Poisons, Blyth's Poisons, their Effect and Detection.

Department of Music

PROFESSOR ENDER, PROFESSOR CHRISTENSEN,
MISS CATHCART

In this department work along the following lines is offered: piano, voice, stringed and band instruments, and theoretical branches. The student who is interested in music may take advantage of many free opportunities by attending or taking part in recitals and other events that occur during the year.

The demand at the present time is for men and women who are equally developed morally, mentally and physically.

The chief function of music is to express and excite emotion, hence the pursuance of the study of music tends to develop the emotional powers, and to refine and uplift the moral qualities. As the proper study of music requires as much mental concentration as any other line of study, it is equally strengthening to the intellect.

The aim of this department is to furnish the best methods for the acquirement of a thorough musical education and to provide adequate instruction for those who intend to become teachers of music.

Opportunity is offered, in connection with the College, for a liberal and practical education, and the heads of the various departments are particular to urge students of music to avail themselves of this opportunity. A mere technical training will not suffice. The most successful teachers and students are those who seek the broadest intellectual development.

The prices charged for tuition in the music department are very reasonable when one considers the many free advantages that are offered.

Expenses

The following fees will be charged per semester for instruction under the various instructors:

Voice or Piano (professor of music), two half hour lessons a week, $18.00.

Piano (assistant), two half hour lessons a week, $15.00.

Voice (associate professor of music), two half hour lessons a week, $18.00.

Violin, viola, cello (head of violin department), two half hour lessons a week, $18.00.

Theoretical branches—Free to all eligible students enrolled in department of music, and to those electing them in the General Science and Home Economics Courses.

Piano practice—Free to all students enrolled in the department of music.

Special fees will be charged short course students who desire to pursue any of the branches in the department of music.

Diplomas, $2.00.

RECITALS.

Public and private recitals are given frequently by the various members of the faculty and by students. Students are required to take part in any of these recitals, if prepared. This serves as a special impulse towards earnestness and many accomplish much better work under such an incentive. Aside from this, frequent appearance before others tends to give the student that necessary self-control and repose without which it is impossible to become a finished performer. Attendance at all recitals is obligatory upon all students enrolled in either the academic or collegiate courses.

CHORAL ORGANIZATIONS AND ORCHESTRA.

A male glee club and a ladies' chorus are organized at the beginning of the year, to which any student or faculty member of the college is eligible at the recommendation of the professor of music. The two separate organizations are combined the last half of the year as a choral union, the intention being to render some of the choral masterpieces and oratorios and cantatas. All vocal students, and piano and violin students who are eligible, are required to attend the choral union rehearsals unless excused by the chorus leader.

A college orchestra is also maintained, to which any student who is qualified is eligible.

PLAN OF STUDY.

The plan of study consists of two general courses, the Academic and the Collegiate Courses in Music, and the Preparatory Course.

The Preparatory Course is designed for beginners or for those who have not been thoroughly trained in the rudiments of music, and prepares the student for entrance into the Academic or Collegiate Courses. The time generally required to prepare for entrance into the courses mentioned will vary from one to two years.

The aim of the Academic Course is to enable those students who do not care to complete a course of music leading to graduation to become proficient as performers, and to give them a fair knowledge and appreciation of the educative principles of music. At the completion of this course the student will be granted a certificate of proficiency or attainment.

The Collegiate Course leads to graduation and consists of three years' work. Students upon completing the requirements for the second year's work will be granted a teacher's certificate, and upon completing the third year's work will receive a diploma.

It is impossible to give a definite outline of the course of study to be followed, as it will vary according to the pupil's ability. However, some things must be studied, and beyond that the instruction is adapted to the personal needs of each student. The work offered in the different lines of music is described below.

PIANOFORTE.

The preparatory work in piano embraces eight distinct subjects: (a) mind training; (b) physical development; (c) ear training; (d) technic; (e) rhythmic studies; (f) sight reading; (g) sight playing; (h) memorizing.

Selection will be made from the following list of studies in pursuing this course:

Kohler Studies; Czerny (Liebling's Book I); Gurlitt studies; Loeschhorn, Op. 65 and 52; Kunz, 200 canons; easy studies by Bach; Kuhlau's Sonatinas; MacDougall's studies in melody playing; easy pieces by modern composers and masters also. Other studies by good composers, not mentioned, may be used.

The piano work required for graduation in the Collegiate Course in Music extends throughout three years and is as follows:

First Year.

Heller, selected studies (Presser edition); Czerny, (Liebling's Book II); Duvernoy, Op. 120; Henning's Fugues and Fugettas; Czerny Op. 553 (Octaves); Bach's two voiced inventions; Cramer-Buelow; Beethoven, variations; Beethoven, Sonata, Op. 49; Mozart Sonata; piano solos by modern and romantic composers.

Second Year.

Bach inventions (three voiced); Bach and easy Fugues and Preludes; pedal studies; Beethoven sonata, Op. 79; Czerny, Op. 740;

Mendelssohn, Song Without Words; Kullak octaves; Moszkowski's scales; solos by Grieg, Schubert, Chopin, Schumann and modern composers; first or last movement of a concerto, ensemble work.

Third Year.

Bach, well-tempered clavichord; Chopin, Op. 10 and 25; Concerto—Mozart, Beethoven, Mendelssohn, or some other composer; Kullak, octave studies; Suite—Grieg or Schumann; Liszt, transcription and original compositions; ensemble work; solos by the masters, both modern and classical; Sonata—Beethoven, Scarlatti or Schubert.

Post graduate work is also offered in this department in the following studies:

Czerny, School of Virtuosity; Bach, organ fugues transcribed by Liszt; Bach—partitas and suites; Scarlatti's sonatas; Chopin, etudes and compositions; Schubert, sonatas and impromptus; Schumann, noveletten. Selections by Brahms, Rubinstein, Henselt, Moszkowski and others. Beethoven sonatas; Concertos—Beethoven, Rubinstein, Chopin and others.

Opportunity is offered to Post graduate students for work in Advanced Theory, *i. e.,* Free Composition, Orchestration, etc.

VOICE.

The preparatory work is as follows:

Simple exercises in tone placement and breath control. Interval study. Scales and Arpeggio. Concone School, Neidlinger and Seiber Vocalises. Simple songs for application of principles. Class work, Solfeggio.

The work in voice required for graduation in the Collegiate Course in Music scheduled below extends throughout three years, as follows:

First Year.

Tone placement and breath control. Scales and Arpeggios: Legato and Stacatto; Concone daily exercises and vocalises. Panofka, Lamperti and Bordogni vocalises. Song study in phrasing and interpretation. Class work, Solfeggio and choral.

Second Year.

Tone placement and breath control. Daily exercises by Bonaldi, Marchesi and Lablache; vocalises by Panofka and Nava; Spicker Masterpieces; Vaccai Italian studies. Study of the best Standard and Modern Classic Songs. Class work, Normal work in Solfeggio and Methods (optional) and choral.

Third Year.

Study of trill and other musical embellishments. Velocity studies by Giraudet, Viardot and others. Spicker masterpieces; Lamperti studies in Bravura; Bordogni vocalises. French, German and Italian songs. Oratorio and operatic arias. Formation of repertory. Class work, choral.

VIOLIN.

The preparatory work is as follows:

Position, tone production on open strings; most important rudiments of musical theory in general; Hofmann's Violin School, Book I; Duets by Gebauer and Mazas; easy solos by miscellaneous composers for violin with piano accompaniment.

The work in violin required for graduation in the Collegiate Course in Music scheduled below extends throughout three years, as follows:

First Year.

Two octave scales in all major and minor keys. Kayser's Etudes Op. 20, Book I; Wohlfart Studies, Op. 45, Book I; Mazas, Op. 38, Duos for Violin and Piano, Book II; miscellaneous solos for violin with piano accompaniment.

Second Year.

Three octave scales in all major and minor keys; Kayser's Etudes Op. 20, Book I; Wohlfart Studies, Op. 45, Book I; Mazas, Op. 38, technical studies; Schubert Sonatinas, Op. 137, for violin and piano; miscellaneous solos for violin with piano accompaniment.

Third Year.

Etudes by Kreutzer, Mazas, Dont and Rode; Schradiecke's technical studies; Sonatas by Mozart and Beethoven; miscellaneous solos by Wieniawski, Mendelssohn, De Beriot, etc.; Concertos by Viotti, De Beriot, etc.

THEORY OF MUSIC.

The subjects along this line extend throughout the three years of the Collegiate Course in Music and are as follows:

First Year.

(Classes conducted by Miss Westcott)

First Semester.

1. Elements of Music. Two recitations a week. Principles of notation ;study of rythm, mensural drills; study of dynamic symbols, abbreviations, etc.

2. Elementary Harmony. Two recitations a week; scale building, diatonic and chromatic, drills in recitation of scales and chords; interval study; formation of major and minor triads; construction of seventh chords; key and chord relationship; ear training and dictation.

Second Semester.

3. Elements of Music. Two recitations a week. Musical nomenclature; movement; scale and interval study; ear drills; dictation.

4. Elementary Harmony. Two recitations a week. Chord analysis, simple part writing and study of chord succession; study of dominant seventh, minor ninth and diminished seventh chords and their resolutions; practical keyboard work and ear drills.

Second Year.

(Classes conducted by Prof. Ender.)

First Semester.

5. Harmony. Two recitations a week. Part writing in four parts, open and closed harmony, study of triads, seventh chords and their resolutions, chords of the augmented sixth, chords and their resolutions, and practical keyboard work.

6. History of Music. One recitation a week; elective in the senior year of the Courses in General Science and Home Economics. Purposes of study; music of ancients; music of Greeks; ecclesiastical systems; notation; music outside the church; Polyphonic Era; various schools; church polyphony music reform; musical instruments; organ and early organists; beginning of opera and oratorio; Neapolitan school; early singing and singers; French and English opera; German opera; evolution of the piano-forte; early English and French clavier schools; German polyphonic clavier school; German sonata composers to Haydn. Text: Baltzell.

Second Semester.

7. Harmony. Two recitations a week. Melody writing and harmonizing of a given melody, modulation and improvisation in a given key. Harmonic and melodic analysis of the classics. Practical keyboard work.

8. History of Music. One recitation a week; elective in the senior year of the Courses in General Science and Home Economics. Haydn, Mozart, Beethoven; Beethoven and sonata; violin and makers, violin playing and violin music; orchestra and absolute music: romantic opera; Italian school of 19th century; Wagner's music dramas; other schools; piano playing and composition; Clementi to Field; Romantic school and its masters; pianists and teachers since Liszt; Oratorio after Mendelssohn symphonic poem in Germany; German opera since Wagner; old and new schools in France; musical regeneration in Italy, England and the Netherlands; National schools, Bohemia and Scandinavia; music in the United States; American composers; musical education.

Third Year.

(Classes conducted by Prof. Ender.)

First Semester.

9. Advanced Harmony. Two recitations a week. Melody writing. Harmonizing of melodies; improvisation; single and double counterpoint.

Second Semester.

10. Advanced Harmony. Two recitations a week. Canon and fugue; analysis of fugues; original compositions.

Department of Art

MISS CALDWELL, MISS GODDARD

The aim in arranging the subjects in this department has been to offer such work as shall correlate with other college courses in becoming a means to a general education.

The object of the work is to cultivate an appreciation of beauty and to develop technical skill.

The department is equipped with a good collection of casts and photographs and with such tools as are necessary for class work.

Two courses of study are offered, the preliminary work in each being the same. One course includes the study of form and color, and the other the principles of design and their application in various crafts. A diploma is given students who satisfactorily complete either course. The time necessary to secure a diploma depends on the ability of the student, three years being an average length of time, although the work may be extended over a longer period and carried with a regular college course. The course in academic drawing and painting includes one year each of elementary drawing from cast and still life, painting, and art history. The course in applied design includes a year of drawing, two years of design and handicraft, with a year of art history.

Any advanced student wishing to study the technique of pen and ink will be given individual instruction in that subject.

For description of Art 1 and 2 see the preparatory department.

3. Theory of Design. Two recitations a week, second semester; required in the sophomore year of the Home Economics Course. This subject treats of the principles of design and their practical application in the home.

4-5. Applied Design. Four laboratory periods a week, first and second semesters; required in the senior year of the Home Economics Course elective in the senior year of the General Science Course; prerequisite, Art 1. One period a week for lecture and criticism of original designs and three periods for the working out of these designs in the various crafts of basketry, stenciling, weaving, leather, wood-carving, metal work and jewelry. Students wishing a diploma are required to continue the study of design for a second year and study the principles of the crafts they have not included in their first year's study of applied design.

6. Art History. Two recitations a week, first semester; required in the senior year of the Home Economics Course, elective in the senior year of the General Science Course. This course aims to acquaint the student with the styles of historic architecture and with prominent buildings illustrative of each style.

7. Art History. Two recitations a week, second semester; required in the senior year of the Home Economics Course, elective in the senior year of the General Science Course. A study of great schools of painting. Reference books in the general library and a collection of photographs in the department furnish material for this course.

8. Charcoal Drawing. Five hours a week, first semester; elective to students pursuing special work in art. Drawing from simple casts in outline and in light and shade.

9-10. Charcoal Drawing. Five hours a week, first and second semesters; elective to students pursuing special work in art. Drawing of heads and figures in full light and shade from casts, sketching from pose; prerequisite Art 8.

11. Study of Values. Five hours a week, first semester; elective to students pursuing special work in art. Value studies in charcoal from still life as preparatory work for painting; prerequisite Art 1-2.

12.-13. Painting. Two laboratory periods a week, first and second semesters; elective to students pursuing special work in art; prerequisite, Art 8. Study of color and technic of painting in oil, pastel, and water color from still life and flowers.

14. Normal Drawing. Five hours a week, first and second semesters; elective to college students; prerequisites Art 1-2. In this course such work is given in drawing color and design as will be an aid to students intending to teach in the public schools.

15. Design for Needlework. One hour a week, first semester. This work is offered in connection with the course in needle craft in the Home Economics department.

Department of Military Science and Tactics

LIEUTENANT PEYTON, COMMANDANT

The work of this department is conducted in accordance with War Department orders promulgated pursuant to Acts of Congress.

Instruction in military science and tactics in educational institutions throughout the United States forms a part of the present general system of military training; its function is to impart to the college youth of the land knowledge of the elements of military science and the duties of the soldier in the garrison and in the field in order that the people may receive the benefit of more efficient service when final resort to arms to sustain the national honor or to enforce the laws shall become necessary.

Direct benefits of lasting value are received by the individual cadet which contribute to strengthen his physique and mentality, the better to fit him for the duties of life.

The instruction is both practical and theoretical, as follows:

PRACTICAL.

Infantry drill regulations; firing regulations for small arms; field service regulations; manual of guard duty. Three hours a week required for all able bodied male students of the sophomore, freshman and preparatory classes, the school of agriculture, and special students; optional for seniors and juniors, who may elect further work in the department subject to approval; they may also be required to turn out on special occasions by direction of the commnadant upon approval of the president.

THEORETICAL—REQUIRED

Infantry drill regulations; firing regulations for small arms; field service regulations; manual of guard duty; army regulations. This course is progressive and required for commissioned and non-commissioned officers, one hour a week, one semester, or equivalent. Lectures by the Commandant on various military subjects will be delivered monthly before all cadets. Elements of Military Science; additional requirement for sophomores, one hour a week, second semester.

THEORETICAL—ELECTIVE.

Field Service Regulations and Military Engineering. Junior year, first semester, one hour a week.

Applied Tactics. Junior year, second semester, one hour a week.

Military Law. Senior year, first semester, one hour a week.

International Law. Senior year, second semester, one hour a week.

Further advanced work may be elected with appropriate credit, subject to the approval of the faculty.

All students herein referred to constitute the corps of cadets and are organized for the purpose of drill and administration as an infantry battalion, with a band to which qualified cadets are specially assigned.

The appointment and promotion of commissioned and non-commissioned officers are made in accordance with merit by the commandant subject to the approval of the president.

The College is provided by the U. S. government with the equipment necessary to conduct the department. Each cadet must provide himself with the prescribed uniform. *The complete uniform will be worn at all drills and other exercises.*

The following is an extract from War Department orders:

"Upon the graduation of every class, the professor of military science and tactics, after consultation with the president of the college * * *, will decide upon and report to the Adjutant General of the Army the names of such students belonging to the class as have shown special aptitude for military service, and will furnish a copy of his report to the Adjutant General of the State for his information."

Department of Commerce

PROFESSOR STARRING, MR. SCHLATTER

The department of commerce occupies commodious quarters on the second floor of the central building. These rooms are well suited to the work of the department and supplied with equipment for thorough instruction in business subjects.

The work of this department includes two courses: one for High School graduates, the Secretarial Course; and the other, the regular commercial course, which combines preparatory subjects with business branches and covers a period of four years.

The Secretarial Course is intended to serve those graduates of our high schools who cannot take a regular college course but who would avail themselves of an opportunity to secure a thorough training for secretarial work or business. The course is a combination of the work of the freshman year in college and the more important subjects of the course in commercial science.

With the modern advances in office practice and methods in commercial correspondence, the demand upon the private stenographer are such that he should be more than a mere amanuensis or mechanical device for turning out letters. The responsibilities thrust upon him are of such nature that he should have a thorough secretarial training. In order to be successful he must be trained to do independent thinking, must have self confidence, and be able to shoulder responsibility. It is to fulfill these requirements that the course is offered.

Students who pass satisfactory examinations in the Secretarial Course will be given a certificate. To be eligible for this special certificate, the student must be regularly enrolled as a High School graduate.

Graduates of this department have no difficulty in obtaining satisfactory positions. As a rule, they are all spoken for some time previous to their completing the course. The demand must wait for the supply. High School graduates, on account of their superior training, ought to have first choice of positions. They are more sought after because their mental capacity is much greater than that of the ordinary commercial school product.

It is a notable fact that the United States government is in constant need of more stenographers and secretaries than it can obtain. The examination requirements are often lowered in order to secure the help it needs. Initial salaries for first-class stenographers are very good, and promotions are frequent. Our special secretarial course affords an admirable preparation for civil service examination.

The work of the regular course includes both shorthand and general commercial training, which are so arranged that they are taken as a part of the preparatory course by those who wish to obtain a business education together with a broad general knowledge. Those who have not completed the equivalent of a high school course should follow the course in commercial science as outlined in the schedule of the preparatory department. High School graduates will of course find the one year secretarial course well adapted to their needs. To enter the classes in shorthand a student should have a preliminary English training of about three years.

THE SECRETARIAL COURSE.

First Semester.

Business Law. Including a practical analysis of contracts; negotiable paper; agency; partnership and corporations; personal and real property; suretyship, guaranty and insurance; the management of decedents' estates. Lectures and text-book work supplemented with the study of actual cases. Special lectures by local and visiting attorneys.

Freshman Rhetoric. A college course affording practice in composition, supplemented with reading. This course is intended to develop the power of writing correct English.

Logic. A college course consisting largely of lectures, with exercises to develop clearness and accuracy of thinking.

Shorthand. Theory; drills to develop ability in writing sounds. Study of word-signs; simple dictation. Pitmanic system.

Typewriting. Drills for learning key-board by touch method; business and legal forms; manifolding and letter press; mimeographing; care of machine. Each student will be made familiar with standard typewriters.

Elementary Accounting. A brief course to acquaint the student with the elements of business bookkeeping, the knowledge of which is essential, whether actually used by the student or not.

Second Semester.

Money and Banking. A theoretical and practical study of money and its uses; money and credit funds; their instruments of transfer; the commercial bank; savings bank; trust company; building and loan association; brokerage; organization and operation of various banking institutions; legal regulations. A practical course not usually given in commercial schools.

Logic. A continuation of the work of the first semester; exercises in inductive reasoning based upon psychological observations and analysis.

Rhetoric. A continuation of the first semester's course. Too thorough a study of English cannot be made by the student who expects to become a first-class secretary.

Shorthand and Typewriting. A practical continuation of the work of the first semester. Dictation, including all forms of correspondence and legal matter; polite letter writing; terse business diction; special practice anticipating certain office work or civil service. The typewriting will be based upon shorthand dictation.

Secretary Practice. Afternoon appointments with college offices or business firms in town. Each student will be carefully "checked up" on this work. The practice will be of great value in giving preliminary experience, and will remove the fear of entering the first regular office work upon graduation.

THE REGULAR COMMERCIAL COURSE.

The following subjects are offered in the regular four year course in commercial science. For complete schedule see outline of the preparatory course.

1. Commercial Correspondence. A practical course designed to teach the student to write creditable and up-to-date business letters in natural and conversational English. Particular attention will be paid to penmanship.

2. Commerce and Industry. Three periods per week second semester. Continuation of work of first semester; study of industry and commerce, local, national, and international. This course will be illustrated by the use of a commercial museum now being collected. The student will be required to learn the use of government reports and other sources of information in collecting data.

3. Bookkeeping. Three laboratory periods per week, first semester. Single and double entry studied as in actual business; the aim being to acquaint the student with the fundamental principles of bookkeeping. Students who are deficient in penmanship will be required to take course 1.

4. Bookkeeping. Three laboratory periods per week second semester. Advanced bookkeeping, affording practice with the more complex books and forms used in modern offices. Special attention given to the accounting books of commission, general merchandise, wholesale and retail business, manufacturing and banking. By the use of separate price lists, each student will be obliged to do independent study and thinking. In this course the student becomes familiar with the uses of various kinds of commercial paper and office practice.

5. Shorthand. Five recitations per week first semester. In this course the student masters the theory of shorthand; dictation of simple business letters to develop facility in handling writing ma-

terials; drills on principles, characters and word-signs. Pitmanic shorthand is taught. Nothing but the very best work is accepted, for it is time wasted to prepare second and third rate stenographers for office work.

6-8. Typewriting. Five periods a week first semester. Five to ten periods a week second semester. Graded exercises to learn machine by touch method; care of machine; correspondence and legal forms; manifolding and mimeographing; billing and tabulating. The work of the second semester will be based upon shorthand dictation. The student will be required to develop the ability to read and transcribe his notes readily and accurately. Each student is to collect a port-folio of his typewritten work which has been accepted by the instructor of typewriting.

7. Shorthand. Five recitations per week second semester. Dictation of business letters and general matter to develop speed; legal forms; civil service matter. Student is not allowed to develop speed carelessly at the expense of legibility. With this course, the student makes a study of commercial correspondence and the most approved forms in letter composition. All dictated matter is transcribed on typewriter.

9. Business Law. Three recitations a week first semester. Designed to acquaint the student with the fundamental principles of business law, supplemented with a study of actual cases illustrative of these principles. A topical analysis of contracts; negotiable paper; agency; partnership; corporations; guaranty; sale of chattels; stoppage in transitu; payment; law of tender; liens; bailment; insurance; probate matters and real estate conveyances.

10. Money and Banking. Three hours per week second semester. A theoretical and practical study of the history of money; nature and uses of money; classification of banks; bank circulation; deposits and loans; officers of banks; collections; reserves; legal regulations; clearing houses; loan and trust companies. Open to seniors, secretary, and college students only.

11.-12. Practical Publicity. Two recitations a week throughout the year. Elective in the junior or senior year of the General Science Course and in the senior year of the Agriculture Course. A practical course in journalism and writing for the press. Advertising and salesmanship.

Note—On account of the character of the work of this department, it is quite essential that students report for work at the beginning of each semester. Students arriving late often find it difficult to make up back work under a tutor in order to complete the required amount of study during the year.

Preparatory Department

PROFESSOR FORSEE, MISS YOUNG

The Preparatory Course is prerequisite to all courses leading to a degree and is the equivalent of the four year high school course for city schools as adopted by the High School Committee.

The work is arranged so that the student can follow one of two groups, called for convenience, groups A and B. Certain subjects that are considered necessary to a liberal education are common to the three groups. The remaining work is to be selected by the student from one of the three groups according to the line of study he wishes to pursue.

Group A is suited to those who wish to pursue work in the natural sciences.

Group B is intended for those who desire training in shorthand, typewriting and business methods together with a general education. The commercial department, in which these special subjects are taught, occupies commodious quarters, and is supplied with folding desks, typewriters, and offices for carrying on business transactions, such as banking and mercantile work. The subjects of this group are arranged so that students who have had the necessary training along other lines may complete a course in business practice or shorthand subjects in one year.

The students of this department are under the supervision of an experienced member of the faculty, who superintends their work and strives to secure the forming of correct habits of life on the part of all.

Students will be admitted to this department upon completion of the eighth grade work in the public schools.

The Franklin Literary Society is composed of preparatory students and short course students of equal rank. This work is also under the supervision of the Principal of the department.

The following subjects are offered in this department:

ENGLISH.

1. Composition. Five recitations a week, first semester. Choice of words, meaning of words, preferred usage according to best authorities. Text to be announced.

2. Composition. Five recitations a week, second semester; prerequisite, English 1. Kinds of composition; study of description; paragraphing; narration; clearness; letter writing; choice of words; exposition and argument. Text to be announced.

3. Composition and Rhetoric. Five recitations a week, first semester. This work affords the student practice in composition, an introductory knowledge of the principles of rhetoric and an acquaintance with certain masterpieces of English literature. Herrick and Damon's Composition and Rhetoric for Schools is used as a textbook. Of the selected classics some are used for rapid reading, others for careful study in class.

4. Composition and Rhetoric. Five recitations a week, second semester. A continuation of English 3.

5. American Literature and Classics. Five recitations a week, first semester.

6. American Literature and Classics. Five recitations a week, second semester.

7. English Literature and Classics. Five recitations a week, first semester.

8. English Literature and Classics. Five recitations a week, second semester.

LIBRARY.

With a view to facilitating the student's use of the library the following courses are given:

1. Library. One recitation a week, first semester. The use of indexes, dictionaries, encyclopedias; the card catalog; the classification; the leading periodicals.

2. Library. One recitation a week, second semester. Periodical indexes; brief bibliographies on assigned subjects; special reference works; the leading publishers; publications of the U. S. Government.

ART

1. Freehand Drawing. Three laboratory periods a week, first semester. Pencil drawing from simple nature forms and still-life for study of proportion, form, values, pencil rendering, and principles of perspective. One hour each week is given to the study of great artists and their work.

2. Free Hand Drawing. Three laboratory periods a week, second semester. Continuation of pencil drawing and picture study, use of colored pencils in representing nature forms, drawing from pose, outdoor sketching.

HISTORY.

1. U. S. History. Five recitations a week, first semester; pre-

requisite, a knowledge of the history of the United States to the Colonial Period. A study of the conditions during the Colonial Period; Revolutionary War and War of 1812; industrial development of our country; the long struggle with slavery; the indestructibility of the Union; the economic struggle; the growth of the Northwest. Text to be announced.

2. Civics. Five recitations a week, second semester. General principles of government; branches of government; a close study of the constitution; comparison between the principles of the national government and those of our own state; principles of law; contracts in general. Text to be announced.

3. Greek History. Three recitations a week, first semester; History of Greece with brief preliminary survey of oriental history. The history of Greece and Rome is regarded as a study of the evolution of Greek and Roman institutions. Events are considered in their bearing on that evolution. A text-book is used, supplemented by other material. Text: West's Ancient World.

4. Roman History. Three recitations a week, second semester, History of Rome with special emphasis upon the institutions of the empire. The work of this course includes the period of transition to the year 800 A. D. Text: West's Ancient World.

5. English History. Three recitations a week, first semester. History of England to 1485. Emphasis upon constitutional points, and upon those institutions from which our own are derived. Textbook, lectures, papers and reports. Text: Cheyney's Short History of England.

6. English Hisory. Three recitations a week, second semester. Continuation of History 5. The Tudors and the Reformation; the Stuarts and Parliament; England under Parliamentary rule; the era of reform; democracy and empire. Text: Cheyney's Short History of England.

MATHEMATICS.

1. Arithmetic. Five recitations a week, first semester; prerequisite, a general knowledge of Arithmetic. All the principles of percentage; involution; evolution; mensuration and the entire metric system. Text; Southworth-Stone's Arithmetic, Part 3.

2. Algebra. Five recitations a week, second semester. Beginning with the fundamental notions. Text: Milne's Academic Algebra.

3. Algebra. Five recitations a week, first semester. Continuation of Mathematics 2.

4. Algebra. Five recitations a week, second semester. Continuation of Mathematics 3. A general review of quadratics, the progressions, ratio and proportion, logarithms and such other important topics as the time will permit of taking up.

5. Plane Geometry. Four recitations a week, first semester; pre-

requisite, Mathematics 2. Beginning the subject. Test: Sanders' Plane and Solid Geometry.

6. Plane Geometry. Four recitations a week, second semester; prerequisite, Mathematics 3 and 5. Plane Geometry completed.

PHYSICS.

1. Elementary Physics. Three recitations and two laboratory periods a week, first semester; prerequisite, Mathematics 2. Properties of matter, mechanics of solids, and mechanics of fluids; nature of light, intensity, velocity and reflection of light; laboratory work showing principal phenomena and proving laws governing them in properties of matter, mechanics of solids and mechanics of fluids; velocity of sound, color and reflection of light. Text:Carhart and Chute's High School Physics; Chute's Practical Physics—Laboratory Manual.

2. Elementary Physics. Three recitations and two laboratory periods a week, second semester; prerequisite, Physics 1. Refraction of light, heat, electricity and magnetism; laboratory work in heat, colorimetery, refraction of light, magnetism, static electricity, detection of electric current and its direction, induced currents and measurements of electrical resistances. Texts: Carhart and Chute's High School Physics; Chute's Practical Physics—Laboratory Manual.

MECHANICAL ENGINEERING.

1. Carpentry and Wood Turning. Five laboratory periods a week, first semester. Talks on the care and use of different tools. Practice at the bench in making the various joints used in wood construction.

2. Forging. Three laboratory periods a week, second semester. Bending, drawing, up-setting, welding and forging iron; steel manipulation, including cold chisels, punches and lathe and planer tools, tempering and hardening.

Mechanical Drawing. Three laboratory periods a week, first and second semesters. Instrumental drawing, geometrical problems and parts of machines. This work is offered during the entire year, and at hours convenient to teachers and students.

ZOOLOGY.

1-2. Elememtary Physiology. Two recitation and laboratory periods a week, first and second semesters. This is offered in the second year of the preparatory course and is designed to meet the requirements for High School physiology. It includes an elementary study of the human body, its physiology, hygiene and sanitation. Text: Hough and Sedgwick's The Human Mechanism.

NATURE STUDY.

1-2. Elementary Biology. Three lectures and two laboratory periods a week, first and second semesters. An elementary course in biology; the first semester will be devoted to the study of animal life, while the second will deal with plant life.

PHYSIOGRAPHY.

1. Five recitations a week, second semester. The relation between the earth and the sun; rivers; weathering of soils, glaciers, their cause and action; land forms, their cause and influence on man; volcanoes, their causes and effects; the atmosphere and its importance; the ocean; life on land and sea; how the physical conditions of the earth affect the life of man. Text: Gilbert and Brigham's Introduction to Physical Geography.

HOME ECONOMICS.

1. Handwork. Three laboratory periods a week, first semester. The work includes braiding, knotting, crocheting, knitting, weaving, etc.

2. General Cookery. Three laboratory periods a week, second semester. The work covers preparation of simple dishes with a view to suitable methods and combinations in serving; it also includes the general care and management of kitchen and utensils.

PREPARATORY COURSE.

First Year.

First Semester—

Composition, a 5	English	1
Arithmetic (including Metric System), a 5	Mathematics	1
United States History, a 5	History	1
Military Tactics, 3		
Elective		
A Freehand Drawing, b 3	Art	1
B Commercial Methods, a 3, Correspondence	Commerce	1

Second Semester—

Composition, a 5	English	2
Algebra, a 5	Mathematics	2
Civics, a 5	History	2
Military Tactics 3		
Elective		
A Freehand Drawing, b 3	Art	2
B Commerce and Industry, a 3	Commerce	2

Second Year.

First Semester—

Composition and Rhetoric, a 5	English	3
Algebra, a 5	Mathematics	3
Greek History, a 3	History	3

Military Tactics, 3		
Elective		
A Bookkeeping, b 3	Commerce	3
A Elementary Physiology, a & b 2	Zoology	1
B Bookkeeping, b 3	Commerce	3
B Typewriting, 5	Commerce	

Second Semester—

Composition and Rhetoric, a 5	English	4
Algebra, a 5	Mathematics	4
Roman History, a 3	History	4
Military Tactics, 3		
A Bookkeeping, b 3	Commerce	4
A Elementary Physiology, a & b 2	Zoology	2
B Bookkeeping, b 3	Commerce	3
B Typewriting, 5	Commerce	

Third Year.

First Semester—

American Literature and Classics, a 5	English	5
Plane Geometry, a 4	Mathematics	5
English History, a 3	History	5
Library, a 1	Library	1
Military Tactics, 3		
Elective		
A Carpentry and Wood Turning, b 5 or	Mechanical Engineering	1
A Handwork, b 5	Home Economics	1
B Stenography, a 5	Commerce	5

Second Semester—

American Literature and Classics, a 5	English	6
Plane Geometry, a 4	Mathematics	6
English History, a 3	History	6
Library, a 1	Library	2
Military Tactics, 3		
Elective		
A Physiolography, a 3 &	Physiography	1
A Forging, b 3 or	Mechanical Engineering	2
A General Cookery, b 5	Home Economics	2
B Stenography, a 5	Commerce	6

Fourth Year.

First Semester—

English Literature and Classics, a 5	English	7
Elementary Physics, a 3, b 2	Physics	1
Business Law, a 3	Commerce	9
Military Tactics, 3		

Elective		
A Elementary Biology, a 3, b 2	Entomology	1
B Elementary Biology, a 3, b 2	Entomology	1

Second Semester—

English Literature and Classics, a 5	English	8
Elementary Physics, a 3, b 2	Physics	2
Money and Banking, a 3	Commerce	10
Military Tactics, 3		
Elective		
A Elementary Biology, a 3, b 2	Entomology	2
B Elementary Biology, a 3, b 2	Entomology	2

School of Agriculture

DR. BRIGHAM, MISS FROMME, MISS KELLY

The School of Agriculture of South Dakota opened in November, 1908. During the five months of the first school year more than one hundred students were registered in the pioneer class. The average age of these students was twenty years.

About one-third of the students of the pioneer class have taken the second year's course and about eighty students were registered in the class entering in November, 1909.

The Annex to the Chemical Building of the State College, provides adequate lecture rooms, laboratory, kitchen and sewing room for the School of Agriculture.

The School of Agriculture has for its specific purpose the instruction and training of young people for the life and work of the farm and home, for the social life of the rural community and for American citizenship.

The farmers' boys and girls are often needed on the farms and in the homes to help the parents during the busy season of the year. They can usually be spared from such work during the winter season, and may well spend this time in study which will prepare them for practical, profitable farming and successful home management.

The aim of the instructors in the School of Agriculture is to search out, with the students, the underlying principles of the objects and operations of the farm and household and to teach their application in successful practice.

While the subjects of study consist primarily of those which relate to farming and household economy, they include also such as are essential to a regular high school course. English and mathematics receive due attention. History and civics help to prepare the student for citizenship. Drawing and music are not neglected. Chemistry, physics and biology (including botany, bacteriology, physiology and entomology) will be studied, especially in their relations to the farm and the home. The instruction is largely technical. The technical topics include studies in soil, plants and crops, domestic animals, food, feeds and feeding, cooking, sewing, laundering, farm and home management, records and accounts, carpentry and blacksmithing. Text-books are used when these aids best answer the purpose. Lectures are given in the subjects which can be most efficiently taught in this way. Free use is made of object lessons. Demonstrations are given in the class rooms, laboratories, kitchen and sewing rooms, barns, greenhouses, gardens, orchards and fields. Laboratory practice is given as far as the facilities permit.

The School of Agriculture welcomes earnest and worthy young men and women from all parts of the state who have passed the eighth grade in the public schools and are willing to work in such a course of mental and manual training as will prepare them for life's labors, on the farms and in the homes of South Dakota.

The tuition is three dollars a term, or six dollars for the year, with a small fee for each laboratory in which work is taken.

THE SCHOOL YEAR.

The season of schooling continues during the colder months of the year. The first term begins about November first and continues until Christmas time; the second term opens immediately after the Christmas recess and continues until about the first of April (See Calendar, page 3).

The students of the School of Agriculture, after five months of study and training, will return to their homes for seven months and apply in practice the principles and methods which they have studied.

COURSES OF STUDY.

Following are the schedules of the courses of study. The academic studies are practically the same for men and women. The courses are differentiated only in such points as are related to their specific spheres in life's work:

THREE YEAR COURSE FOR MEN.

Note—The small letters and numbers after the names of subjects indicate the character of the work and the number of times a week, "a," meaning class work, "b," laboratory work.

First Year.

First Term—

English	a 4
Mathematics	a 4
Agronomy	a 1
Chemistry (Elementary)	b 2
Biology (Agricultural Botany)	b 2
Mechanical Drawing	b 2
Poultry Culture	a 1, b 1
Farm Crops	b 2
Live Stock Judging	a 2
Dairy Husbandry	a 2, b 1
Agricultural Bacteriology	a 1, b 1
Blacksmithing	b 3
Music (vocal)	5
Military Drill	3

Second Term—

English	a 4
Mathematics	a 4
Chemistry (Inorganic)	b 2
Biology (Agricultural Botany)	b 2
Mechanical Drawing and Building Plans	b 2
Poultry Culture	a 1, b 1
Farm Crops	a 1, b 1
Live Stock Judging	a 2
Dairy Husbandry	a 2, b 1
Horticulture (Gardening)	b 1
Agricultural Bacteriology	a 1, b 1
Carpentry	b 2
Military Drill	3

Second Year.

First Term—

English	a 4
Music	5
Algebra	a 4
Farm Accounts and Records	a 1
Chemistry (Organic)	a 3
Biology (Animal Life)	a 3
Agricultural Physics	b 2
Drawing (Free Hand)	b 2
Soil Formation and Management	a 1, b 1
Live Stock Judging	a 3, b 1
Horticulture (Fruit Growing)	a 1, b 1
Farm Machinery	b 2
Music	5

Military Drill	3

Second Term—

English	a 4
Algebra	a 4
Farm Accounts and Records	a 1
Biology (Animal Life)	a 3
Drawing (Free Hand)	b 2
Agricultural Physics	b 2
Soil Formation and Management	a 1, b 1
Breeds of Live Stock	a 3
Live Stock Breeding	a 2
Horticulture (Fruit Growing)	a 1, b 1
Farm Machinery	b 2
Music	5
Military Drill	3

Third Year.

First Term—

English	a 4
Geometry	a 4
Biology (Human Life)	a 2
Drawing	b 2
History and Civics	a 4
Land Management	a 2
Live Stock Feeding	a 4
Dressing and Curing Meats	b 1
Forestry	a 1
Veterinary Science (Prevention of Animal Diseases)	a 2
Farm Manufacturing	b 2
Music	5
Military Drill	3
Theme (Selection of Subject and Synopsis)	1

Second Term—

English	a 4
Geometry	a 4
Biology (Human Life)	a 2
Drawing	b 2
Land Management	a 2
Live Stock Feeding	a 4
Advanced Live Stock Judging	b 4
Agricultural Organization and Co-operation	a 1
Forestry	a 1
Veterinary Science (Prevention of Animal Diseases)	a 2
Farm Manufacturing	a 1, b 1
Agricultural Storage, Transportation and Marketing	a 1

Music	5
Military Drill	3
Theme (To be presented before March 1)	3

THREE YEAR COURSE FOR WOMEN.

First Year.

First Term—

English	a 4
Mathematics	a 4
Agronomy	a 1
Chemistry (Elementary)	b 2
Biology (Agricultural Botany)	b 2
Mechanical Drawing	b 2
Poultry Culture	a 1, b 1
Dairying	b 1
Bacteriology	a 1, b 1
Cooking (Elementary) (3 hour b periods)	a 1, b 2
Sewing (Elementary) (3 hour periods)	b 2
Music (vocal)	5
Physical Culture	2

Second Term—

English	a 4
Mathematics	a 4
Agronomy	a 1
Chemistry (Inorganic)	b 2
Biology (Agricultural Botany)	b 2
Mechanical Drawing and Home Architecture	b 2
Poultry Culture	a 1, b 1
Horticulture (Floriculture and Home Gardening)	b 1
Bacteriology	a 1, b 1
Cooking and Serving (3 hour periods)	b 2
Sewing (3 hour periods)	b 2
Music (vocal)	5
Physical Culture	2

Second Year.

First Term—

English	a 4
Algebra	a 4
Household Accounts and Records	a 1
Chemistry (Organic)	a 3
Biology (Animal Life)	b 2
Physics	b 2
Drawing (Free Hand)	b 2
Household Management	a 2
Household Science	a 1, b 1

Sanitation	a 1
Textiles and Sewing	a 1, b 2
Music	5
Physical Culture	2

Second Term—

English	a 4
Algebra	a 4
Biology (Human Life)	a 1
Drawing (Free Hand and Designing)	b 2
Household Accounts and Records	a 1
Physics	b 2
Household Chemistry	b 1
Laundering	b 1
Household Science, (Marketing, Planning Menues, Serving, Table Decoration)	a 1, b 1
Sanitation	a 1
Dietetics	b 1
Sewing (Making Woolen Dresses) (3 hour periods)	b 1
Tailoring	b 2
Clay Modeling, Wood Carving	b 1
Music	5
Physical Culture	2

Third Year.

First Term—

English	a 4
Geometry	a 4
Biology (Human Life)	a 2
Drawing	b 2
History and Civics	a 4
Household Sanitation and Plumbing	a 2
Household Science	a 1, b 1
Dressing and Curing Meats	b 1
Home Decoration	b 1
Millinery	b 1
Clay Modeling, Wood Carving	b 1
Physical Culture	2
Theme (Selection and Synopsis)	1

Second Term—

English	a 4
Geometry	a 4
Biology (Human Life)	a 2
Drawing	b 2
Agricultural and Domestic Organization and Co-operation	a 1
Invalid Cookery (3 hour period)	b 2

Home Nursing and Emergencies	b	2
Care and Feeding of Children	a	1
Designing and Making Graduation Dresses	b	2
Leather Tooling	b	1
Music		5
Physical Culture		2
Theme (To be presented before March 1)		1

SHORT INDUSTRIAL COURSES

Special work is offered in the various industrial departments for the benefit of those who can not avail themselves of the opportunities offered in the longer courses. These short courses are becoming a very attractive and profitable feature in the lives of many who can get away from their homes only at the time of the year when the work is offered, and persons of all ages, young and old, are found working side by side in these classes, to improve the conditions of their lives in the home and on the farm. A special effort is put forth to make the work interesting and specialists from other institutions are often engaged to assist in the instruction.

Since much of this work is adapted to the needs of the persons enrolled for it, the courses cannot be very fully described here. For a more detailed description of any particular work, address inquiries to the department concerned or to the President of the College.

The different courses are mentioned below:

The Two Weeks' Course In Agriculture

January 7 to January 18

This course will consist of lectures on judging live stock, stock breeding, stock feeding, corn judging, grading and cleaning grain, poultry management and kindred subjects.

The tuition fee for this course is one dollar.

The Three Months' Creamery Course

January 7 to March 27

This course is especially designed for young men wishing to fit themselves for various positions connected with the creamery industry such as helpers, buttermakers, managers, inspectors, etc.

Prospective students are urged to get at least six months of practical experience in some creamery before attending college, as by this means it is found that much greater benefit is derived from the work at the school.

The more general application of scientific principles to the manufacturing industries as well as the increasing competition on all sides demand a more thorough training in scientific and business methods than heretofore. This is no less true with regard to the creamery industry, and while the practical work of the school is by no means neglected special pains are taken to teach the underlying principles and the "reason why" for many of our daily operations.

The increasing interest in dairying in South Dakota and the consequent multiplication of creameries are creating a demand for men well trained along dairy lines, and applications for such are constantly being received at salaries varying from $50 to $125 per month. Worthy students may count on the co-operation of the dairy department in helping them to secure positions at the close of their college work.

The following work is offered:

Factory buttermaking and creamery management.
Testing milk and its products.
Dairy bacteriology.
Dairy arithmetic and bookkeeping.
Breeding, feeding and management of dairy cattle.
Agronomy.
Veterinary Medicine.
Creamery Mechanics.

The tuition is four dollars for the three months' term with a small additional fee for laboratory expenses.

A certificate of standing will be issued to all students passing satisfactory examinations on the above subjects.

A diploma will also be issued to students holding certificates of standing after satisfactorily demonstrating their ability to successfully operate a creamery for one year.

Short Course in Traction Engineering

January 7 to June 6

Modern agricultural methods have introduced the steam and gas engine, as a substitute for animal power, in such a marked degree, that the consequent growing demand for traction engineers has led the College to arrange a five months' course for the special training of such engineers. Extreme care has been taken to offer only such work as will prove valuable to the man running the traction engine and other machinery. A relatively large amount of Shop Work and Engine Practice is introduced.

For the work in Engine Practice several of the most modern types of both Steam and Gas Traction Engines are available. Enough time is devoted to this part of the work to make each student thoroughly familiar with all of the engines, and able to operate them satisfactorily in actual practice. The Engine Practice work generally starts as soon as the frost is out of the ground, or about April 10th, and continues to the end of the term.

A proper proportion of recitations in closely allied subjects is also included in this course.

The tuition is eight dollars for the entire course with a small amount extra for laboratory fees.

Upon the satisfactory completion of the work the student is given a certificate which is virtually the same as a license to run an engine in this state.

Students who desire to take this course are expected to pass a satisfactory examination in arithmetic, to read intelligently and to show such general elementary training as will indicate that they are able to understand the subjects embraced in this course.

The work offered is as follows:

Arithmetic	a 5
Heat Engines and Elementary Physics	a 5
Stock Judging or Civil Government	a 2½
Steam and Gas Engine Lectures	a 2½
Forging	b 2½
Mechanical Drawing	b 2½
Engine Practice	b 2

Three Weeks' Course of Instruction In the Care and Management of the Automobile

April 1 to April 18

This course will be thoroughly practical in its nature and will be devoted exclusively to the study of the construction, care and operation of the automobile, in all its details, so as to insure safety to the mechanism as well as economy in general running expenses.

The course will include both lecture and practical laboratory work with automobiles. Each student will have practice in taking down automobiles and after a thorough examination and understanding of the individual parts he will reassemble the machines ready for use.

An experienced driver will give practical instruction on the road management of the machines.

The tuition fee for the course is one dollar.

This course is open to anyone who desires to take the work.

Short Course in Home Economics

January 7 to March 27

This work includes those phases of the subjects and such methods of presentation as will be of service to women in the management of affairs in the home. The course is given for those who wish a broadening of their outlook along the lines of homemaking and have only a short time to give to study. The subjects are considered from this point of view and not with the idea of covering the entire ground as might be done in a longer course.

The tuition fee for this course is four dollars with a small amount additional for laboratory fees.

The subjects included in the work are:

Cooking and Serving.
Handwork and Sewing.
Design and Handicraft.
Horticulture and Home Gardening.
Domestic Dairying.
Sanitation and Home Nursing.

Student Organizations

STUDENT ASSOCIATION

William Sauder	President
Lewis Vercoe	Secretary

INDUSTRIAL COLLEGIAN.

Ben Schaphorst	Editor-in-Chief
Roy Nord	Business Manager
Eugene Kelly	Chairman Council
G. L. Brown	Member Council
Will Sauder	Member Council

ATHLETIC COUNCIL

Irwin Bibby	Chairman Council
Henry Sparks	Member Council
F. H. Johnson	Member Council

DEBATING COUNCIL

J. N. Rodeheaver	Chairman Council
Roy Nord	Member Council
Lewis Vercoe	Member Council

BAND AND ORCHESTRA

Carl Christensen	Leader

YOUNG MEN'S CHRISTIAN ASSOCIATION

Henry Erdmann	President

YOUNG WOMEN'S CHRISTIAN ASSOCIATION

Strayer Morrow	President

ATHENIAN LITERARY SOCIETY

Glenn Cole	President

MILTONIAN LITERARY SOCIETY

John Larson	President

ART CLUB

Verne E. Welker	President

Battalion Roster

FIELD AND STAFF.

Majors	Henry Erdmann Paul Granger
Lieutenant and Adjutant	Walter Wornson
Lieutenant and Quartermaster	James Treacy

NON-COMMISSIONED STAFF

Sergeant Major	Sam A. Young
Color Sergeant	Roy Evans Bert Shepard
Chief Trumpeter	Ross Jensen

COMPANY "A"

Captain	Lewis Vercoe
1st Lieutenant	Richard Morton
2nd Lieutenant	Jay Houghton
1st Sergeant	Perry Clifford
Q. M. Sergeant	Frank Knox
Sergeant	Arno Britzius
Sergeant	Frank Jensen
Sergeant	Vincent Chappell
Sergeant	Thomas Street
Corporal	Leslie Ausman
Corporal	Edward Legler
Corporal	Niel Donaldson
Corporal	Geo. Trygstad
Musician	Arthur Quinn
Musician	Frank Lawler

COMPANY "B"

Captain	Henry Shea
1st Lieutenant	Alfred Bushey
2nd Lieutenant	R. J. Culhane
1st Sergeant	Alex Culhane
Q. M. Sergeant	Louden Somers
Sergeant	A. J. Culhane
Sergeant	Scott Wilkins
Sergeant	Clair Hendricks
Sergeant	Cyrus Briggs
Corporal	B. E. Clark

Corporal	John Freeman
Corporal	Bland Catlett
Musician	Ross Jensen
Musician	Einer Christian

COMPANY "C"

Captain	Clarence H. Sharp
1st Lieutenant	Fred Sebring
2nd Lieutenant	Archie McKay
1st Sergeant	George Pilmer
2nd Sergeant	George Gardner
3rd Sergeant	Alfred Skogstad
4th Sergeant	Fred Caverhill
Q. M. Sergeant	Walter Smith
1st Corporal	Melvin Abrahamson
2nd Corporal	John Tilly
3rd Corporal	Harry Johnston
4th Corporal	Elwood Gross

COMPANY "D"

Captain	Silas Stengel
1st Lieutenant	John Smith
2nd Lieutenant	C. Karlstad
1st Sergeant	Alfred Soreng
2nd Sergeant	Harrison Horton
3rd Sergeant	Axel Nord
4th Sergeant	Evan Norman
5th Sergeant	Lyle Dimick
Q. M. Sergeant	William Nolte
1st Corporal	Chas. Keck
2nd Corporal	Wm. Caverhill
3rd Corporal	Ray Cunningham
4th Corporal	Henry Dutton
5th Corporal	David Elsom

COLLEGE ALUMNI

ALUMNI ASSOCIATION.

Shirley P. Miller, '03 .... President
Lina Evans (Roskie), '01 .... First Vice President
W. S. Burch, '07 .... Second Vice President
Amy Ladd, '11 .... Third Vice President
H. B. Mathews, '92 .... Secretary and Treasurer

Class of 1886.

BACHELOR OF SCIENCE.

Sayler, Marcus A., ... Fruit Grower, Orland, Cal.

Class of 1888.

BACHELOR OF SCIENCE.

Aldrich, John M., ... Prof. Biology, U. of Idaho, Moscow, Idaho
Lawrence, Philip A. .... Attorney, Fargo, N. D.
Wellman, Lulah (Hewes) .... Mayville, N. Y.

Class of 1889.

BACHELOR OF SCIENCE.

Boswell, Katie (Arnold) .... Kennebec
Cranston, Mary (Crane) .... Spokane, Wash.
Cross, Alvah G. ....
Eno, Durell G .... Farmer, Platte
Grady, Francis A. .... Attorney, Crookston, Minn.
Haber, Sarah (Cunningham) .... 1015 Grand Blvd., Spokane, Wash.
Korstad, Hans .... Farmer, Brookings
Larson, Lars K. .... Bank Cashier, Dell Rapids
Lawshe, Grace (Brooke) .... 227 Nelson Ave., Mpls, Minn.
McKenney, Duston W., ... Manual Training, Billings, Mont.
McLouth, Lewis C., Gen. Mgr. Miniature Sales Co., 1228 Chamber Com., Detroit, Mich.
Mork, Albert A. .... Farmer, Des Lacs, N. D.
Roe, Ellen (Aldrich) .... Died Dec. 8th, 1897, at Helena, Mont.
Edmund, Rogers .... 2019 Sycamore, Milwaukee, Wis.
Ross, Carrie (Orcutt) .... Northfield, Minn.
Ross, Abbie (Wesche) .... Webb, Ia.
Wardall, Anna (Scott) .. Osteopath, 3201-31 Ave., S. W., Seattle, Wash.

Class of 1890.

BACHELOR OF SCIENCE.

Allen, William C. .... Died in Chicago
Day, John M. .... Farmer, Mellette

Duffey, Maggie (Irish)..............Mo. Botanical Gar., St. Louis, Mo.
Egeburg, Hildus .... Farmer, Brookings
Haasarud, Ole H. .... Farmer, Bratsburg, Minn.
Harkins, Lilla A., Prof. of Dom. Science, Montana Agricultural College, Bozeman
Hopkins, Cyril G., Prof. of Agronomy, Chemist, and Vice Director of Experiment Station, U. of Illinois, Champaign
Jenkins, John C..................Attorney, 437 C. of C., Portland, Ore.
Kenyon, Arthur H. ....Lawyer, 1315 Mallon Ave., Spokane, Wash.
Pyne, Estel W....Piano Dealer, 633 S. Union Ave., Los Angeles, Cal.
Roe, Guy W. .... State Mgr. Union Fibre Co., Yorktown, Ind.
Stoner, Minna A....Prof. of Dom. Sc. and Dean of Women, Oklahoma Ag. Col., Stillwater, Oklahoma.
Wardall, Norman M....Deputy County Auditor, 2215 41st Ave., S. W., Seattle, Wash.

Class of 1891.

MASTER OF SCIENCE.

Aldrich, John M. ...... Prof. Biology, U. of Idaho, Moscow, Idaho

BACHELOR OF SCIENCE.

Aldrich, Irwin D........................Editor and Farmer, Big Stone
Bell, William D. .... Editor, St. James, Minn.
Bentley, Wm. S. .... Physician, Hot Springs
Chamberlain, Jennie (Spooner) ..Physician, 813 4th St., Detroit, Mich.
Crane, Austin B. ....Civil Eng., 04303 Lincoln St., Spokane, Wash.
Davis, Homer ....Physician, Genoa, Neb.
Dillon, Willis C. ....
Doughty, Hettie (Dibble) ....Tyndall
Frick, Mary (Magaw) ....Rochester, Minn.
Hann, Jay B. .... Photographer, Bellingham, Wash.
Houston, Grant .... Physician, Joliet, Ill.
Irish, Henry C. ....Supt. Mo. Botanical Gardens, St. Louis, Mo.
Lewis, Perry .... Inventor, Mankato, Minn.
Robinson, Alice (Haberlein)........................Los Angeles, Cal.
Shannon, Fanny (Fourt) .... Fairfield, Iowa
Solberg, Halvor C. ...... Prof. Steam and Mechanical Eng., S. D. S. C.
Updyke, Nora (Bacon)................2211 Elizabeth St., Pueblo, Col.
Valleau, Vinal B..........................Merchant, Albert Lea, Minn.
West, Hugh H.................Physician, Spurling Bldg., Elgin, Ill.
Wolgemuth, Lee E. .... Real Estate, Hamilton, Mont.

Class of 1892.

BACHELOR OF SCIENCE.

Austin, Steven E...Mechanical Engineer, Cor. Harrison St. and 42 Court, Chicago

Davis, Samuel H. .... Farmer, Beaverton, Ore.
Griffiths, David, Ass't. Agrostologist, Agr. Dep't., Tacoma Park, Wash.
Hamlin, John R., Jr. ..Fruit Grower, R. F. D. No. 6, Los Angeles, Cal.
Harding, Albert S. .... Prof. of History & Political Science, S. D. S. C.
Hatfield, Ira H..................Attorney, 1145 O. St., Lincoln, Neb.
Keeney, Emma A. .... Physician, Silver Lake, Ore.
Madden, Marguerite (Akin) .... Brookings
Mathews, Hubert B. .... Prof. of Physics, S. D. S. C.
McAndrew, James E. .... Lawyer, Spokane, Wash.
McLouth, Ida B. .... Died, Aug. 27, 1899, at Short Beach, Conn.
Plocker, Eva (Mathews) .... Brookings
Schlosser, Thomas F. .... Clergyman, Garfield, Wash.
Sloan, Nettie (Torrence) .... Redlands, Cal.
Snell, Effie (Clark) .... Memphis, Neb.
Whitten, John C. .... Prof. of Hort., U. of Missouri, Columbia
Winegar, Albert J...........Life Insurance, 854 Bluff St., Beloit, Wis.

Class of 1893.

MASTER OF SCIENCE.

Griffiths, David, Ass't Agrostologist, Dep't. of Agriculture, Washington, D. C.

BACHELOR OF SCIENCE.

Bates, Edmund T..........................Farmer, Wyoming, Iowa.
Beck, Milton ...... Chief Engineer, Alamo Mf'g. Co., Hillsdale, Mich.
Edgerton, Wm. M. .... Physician, Faulkton
McLouth, Benjamin F....Ins. Agent, 3215 Royal St., Los Angeles, Cal.
Robertson, Ada N. .... Teacher, West Helena, Mont.
Robertson, Clarence H., Science Teacher and Y. M. C. A. Sec. for China, 120 Szechuen Road, Shanghai, China
Schoppe, W. J. A. .... Farmer, Groton, S. D.

Class of 1894.

MASTER OF SCIENCE.

Plocker, Eva (Mathews) .... Brookings
Wolgemuth, Lee E .... Real Estate, Hamilton, Mont.

BACHELOR OF SCIENCE.

Brown, Cyrus O. ....Attorney, Douglas, Wy.
Brown, James A.....Attorney, 520 Security Mutual Bldg., Lincoln, Neb.
Dibble, Hattie (Stow)...............................Castlewood
Hopkins, Mrs. C. G. .... Champaign, Ill.
Luke, Fred K. .... Farmer, Kalispell, Mont.
Parker, Fannie (Spooner) .... Brookings
Sproul, Alex H., Head of Com'l. Dep't., Shortridge High School, Indianapolis, Ind.
Tanzy, Marvin F. .... Died Feb. 8, 1900, at Canton,S. D.
Waters, Geo. D.........Real Estate, Scarritt Bldg., Kansas City, Mo.

Williams, Elinor (Knox) .... Higley, Arizona
Young, Gilbert A., Act. Prof. of Mech. Eng., Purdue Univ., Lafayette, Ind.

Class of 1895.

MASTER OF SCIENCE.

McKenney, Dustin W. .... Manual Training, Billings, Mont.
Schoppe, W J. A. .... Farmer, Groton
Sproul, Alex H., Head of Com'l. Dep't., Shortridge High School, Indianapolis, Ind.

BACHELOR OF SCIENCE.

Allison, Wm. F., Prof. Civil Eng., Colorado School of Mines, Golden, Col.
Brown, Sara ....Teacher, Shannon City, Ia.
Cornell, Harry M. .... Real Estate, Mott, N .D.
Mayland, Mable (Merrick) .... Troy, Kan.
Parker, Anna (Moore) .... Brookings
Salisbury, Edith (Robertson)...........120 Szechuen Road, China
Sevy, Isaac B.........................Fruit Grower, Milton, Oregon
Sproul, Wm. T., Gen. Mgr. Ingersoll Milling Machine Co., Rockford, Ill.
Thornber, John J .... Prof. of Botany, U. of Arizona, Tucson
Wilcox, Ernest N. .... Farmer, Thawville, Ill.

PHARMACY GRADUATES.

Briggs, Elmer E. .... Farmer, Muscoda, Wis.
Knox, Wm. H. .... Farmer, Higley, Arizona
Lentz, Elmer A .... Dentist, Brookings
Murphy, Wm. .... Died July 5, 1896, at Brookings
Whitehead, B. T. .... Prof. Pharmacy, S. D. S. C.

Class of 1896.

MASTER OF SCIENCE.

Brown, James A........Attorney, Security Mutual Bldg., Lincoln, Neb.
Luke, Fred K. .... Farmer, Kalispell, Mont.
Robertson, Ada N. .... Teacher, West Helena, Mont.
Snell, Effie (Clark) .... Memphis, Neb.
Wilcox, Ernest N. .... Farmer, Thawville, Ill.

BACHELOR OF SCIENCE.

Atkinson, Jesse C. .... Civil Engineer, Park Ridge, Ill.
Carter, Louis W. .... Post Master, Highmore
Dibble, Ida (Brown))...........Security Mutual Bldg., Lincoln, Neb.
Downing, Jennie C...............................Rathdrum, Idaho
Grattan, Paul H. .... Hardware Merchant, Jackson, Minn.

Hegeman, Harry A., Captain, 19th Infantry, U. S. A., Ft. MacKenzie, Wyo.
Holm, Andrew B. .... Accountant, Brookings
Hoy, Howard H. .... Ass't in Phys. and El. Eng., S. D. S. C.
Korstad, Mary .... Brookings
Lusk, Willard C.........Editor Yankton Press and Dakotan, Yankton
Mathews, Nora (Hoy) .... Brookings
Mathews, Alta (Smith) .... Indian Springs, Nevada
Sasse, Ernest G.......................Physician, Bear Creek, Mont.
Williamson, Albert....................Editor and Farmer, Kennebec

PHARMACY GRADUATES.

Cotter, J. C. .... Merchant, Dell Rapids
Grove, Eugene .... Physician, Badger, S. D.
Moore, Thomas .... Druggist, Waterloo, Ia.
Palmer, Horton .... Druggist, White
Sherwin, Frank .... Merchant, Willamina, Ore.

Class of 1897.

MASTER OF SCIENCE.

Davis, Homer .... Physician, Genoa, Neb.

BACHELOR OF SCIENCE.

Ainsworth, Cephas B..................Bank Cashier, Hilger, Mont.
Atkinson, Geo.........Map Publisher, Ceylon, Saskatchewan, Canada
Atkinson, Walter.......................Civil Engineer, Allegan, Mich.
Boyden, Frank E. .... Physician and Surgeon, Heppner, Ore.
Clevenger, John W. .... Dentist, Chamberlain
Hargis, Christie (Saylor)..........1019 6th Ave., E., Des Moines, Iowa
Hazel, Wm. A. .... Lawyer, Aberdeen
Husted, Harley H. .... Died Jan. 14th, 1907, at Lincoln, Neb.
Jolley, Wm. G..........................Supt. Schools, Woodburn, Ore.
Madden, Cassie (Crowley) ....Spokane, Wash.
Olson, Eva..........................Teacher, South St. Paul, Minn.
Parsons, Thomas S. ....Prof. of Agro., U. of Wyo., Laramie, Wyo.
Roe, Robert .... Stockman, Highmore
Shuster, John W. .... Ass't. Prof. Elec. Eng., U. of Wisconsin, Madison
Thornber, Walter S., Pres. Lewiston-Clarkson School of Hort., Lewiston, Idaho.
Walters, Wm. H. .... Grain Buyer, Bruce
West, Orpha (Sevy)...................................Milton, Ore.
Whaley, Neva (Harding) .... Brookings
Whitehead, Bower T. .... Prof. of Pharmacy, S. D. S. C.
Wilcox, Alice (Remsburg) .... Thawville, Ill.
Work, Lloyd E.......Bond Salesman, 105 S. La Salle St., Chicago, Ill.
Young, Grace (Bullen) ....1134 Maryland Ave., Portland, Ore.

Class of 1898.

MASTER OF SCIENCE.

Chilcott, E. C., Agronomist in Charge of Dry Land Agriculture, Fairfax C. H., Virginia

Harkins Lilla A., Prof. Domestic Science, Montana Agr. College, Bozeman, Mont.

Parsons, Thomas S. .... Prof. of Agro., U. of Wyo., Laramie, Wyo.

BACHELOR OF SCIENCE.

Ainsworth, Howard........No. 25 Bryant Terrace, Mountain View, Cal.

Ainsworth, Flora (Hazel) .... Aberdeen

Barton, Alice (White)....................2548 C. St., Santa Ana, Cal.

Beck. Lewis ....Engineer, 4027 Crosley Ave., Norwood, O.

Bolles, Myrick N., Mining Engineer, with Am. Smelting and Ref. Co., Monterey, Mexico

Curtiss, Elsie (Crane)............................Kettle Falls, Wash.

Davidson, Margaret (Crane)........613 Euclid Ave., Spokane, Wash.

Fjerestad, Hans C. .... Grocer, Sioux Falls

Harding, Charles J. .... Teacher, Brookings

Hegeman, Maude (Boyden) .... Heppner, Ore.

Hegeman, Mabel (Allison) .... Golden, Col.

Hodgeson, Herbert H., Top. Engineer, U. S. Geol. Survey, Wash., D. C.

Knox, Wm. H. .... Farmer, Higley, Arizona

Lawrence, Claude W..........................Farmer, Sequim, Wash.

Lawrence, Clay.................Lawyer, Pioneer Bldg., Seattle, Wash.

Loveland, Addie (Towne)......2104 Penn. Ave. S., Minneapolis, Minn.

Paddock, Jay M. .... Ins. Agent, Lake Preston

Diemann, Edith (Adams)....34 Rue de Comines, Bruxelles, Belgium

Thornber, Wm. T..................................Farmer, Colman

Towne, Judson R., Teacher Physics, E. Side H. S., 2104 Penn. Ave. S. Minneapolis, Minn.

PHARMACY GRADUATES.

Beebe, Jay L. .... Physician, Anaheim, Cal.

Clevenger, J. W. .... Dentist, Chamberlain

Holsey, Joseph .... Druggist, Veblen

Lee, Berton ....Druggist, Badger

Class of 1899.

MASTER OF SCIENCE.

Dibble, Hattie (Stow) .... Castlewood

Mathews, Hubert B. .... Prof. of Phys., S. D. S. C.

Thornber, Walter S., Pres. Lewiston-Clarkson School of Hort., Lewiston, Idaho

Whitten, John C....Professor of Horticulture, U. of Missouri, Columbia

BACHELOR OF SCIENCE.

Colegrove, Ina (Nelson) ....Worcester, Mass.

Findeis, Phillip .... Lumber Merchant, Miranda

Lawrence, Mary M.,	Inst. in Dom. Sc., State Normal, Bellingham, Wash.
Lawrence, Wm. H.	Hort. Expert, Hood River, Ore.
Mason, Nellie (Mason)	Albia, Ia.
Nachtigal, Isaac	Farmer, South Shore
Sherwin, Howard H.	Civil Engineer, 15 Lawrence St.,Yonkers, N. Y.
Walters, Edith (Fystrom)	Died May 16, 1910 at Geneseo, N. D.
West, George	Physician, Armstrong, Ia.

PHARMACY GRADUATES.

Carr, George	Druggist, Bison
Crowley, D. C.	Druggist, Spokane, Wash.
Hepner, Frank	Ass't. Chemist U. of Wyoming, Laramie
Kendall, Clint D.	Druggist, Brookings
Lindsey, Charles	Farmer, Winfred
Oulton, Frank	Real Estate, Faulkton
Shriver, E. M.	Druggist, Elkton
Taylor, C. DeWitt	Drug Clerk, Denver, Col.

Class of 1900.

BACHELOR OF SCIENCE.

Allen, Hart M.	Druggist, Colusa, Cal.
Anderson, Clark W.	Died March 6th, 1902, at Brookings
Beebe, Jay L.	Physician, Anaheim, Cal.
Carlson, Esther (Lilygreen)	St. Paul, Minn.
Carlson, Ella (Howard)	Lake Preston
Davies, Sara (Sherwin)	15 Lawrence St., Yonkers, N. Y.
Davies, Mary (Hutchins)	Fall City, Neb.
DeLa, John W.	Editor, Balfour, N. D.
Doughty, Matthew W.	Civil Engineer, Panama City, Fla.
Grove, Frank W.	Dentist, Delta, Col.
Harza, Carl	Electrician, 21 Scovel Place, Detroit, Mich.
Kendall, Clinton D.	Druggist, Brookings
Lawrence, Jessie	Teacher, Sequim, Wash.
Mathews, Alice (Albright)	1022 8th Ave., N., Great Falls, Mont.
Mathews, Roscoe A.	Boston & Montana Smelter, Great Falls, Mont.
Morrison, Freda (Cole)	Manhattan, Kan.
Olson, Gustava (Hodgeson)	U. S. Geol. Surv., Washington, D. C.
Williams, Callie (Olson)	Brookings

PHARMACY GRADUATES.

Bentley, Wm. S.	Physician, Hot Springs
Brosseau, Jesse E.	Physician, Frankfort
Baldwin, Corwin B.	Druggist, Rapid City
Connell, John C.	Druggist, Luverene
Else, Earl	Physician, Care Am. Med. Ass'n., Vienna, Austria

Eckert, Henry	Died at Menno, S. D.
George, William	Physician, Selby
Hart, Bertrand	Physician, Blunt
Jones, Robert	Druggist, Madison
West, Hugh H.	Physician, Elgin, Ill.

Class of 1901.

MASTER OF SCIENCE.

Knox, Wm. H.	Farmer, Higley, Arizona
Whitehead, Bower T.	Professor of Pharmacy, S. D. S. C.

BACHELOR OF SCIENCE.

Bagley, Susie	Teacher, 3012 Ezekiel St., Lake Co., Zion City, Ill.
Bolles, Laura Jane	Student S. D. S. C.
Brosseau, Jesse E.	Physician, Frankfort
Boyd, Mary	Teacher, Brookings
Cranston, Margaret (Young)	Died June 7, 1907, at Oakes, N. D.
Culhane, Michael E.	Culhane Adjust. Co., Brookings
Davies, Autumn	Inst, in Hist., H. S., Madison Hotel, Omaha, Neb.
Dodge, Fred E.	Hotel Mgr., Redfield
Else, Earl	Physician, Care Am. Med. Ass'n., Vienna, Austria
Enos, Winifred	Teacher, Brookings
Erickson, Martin L.	Forestry Service, Medford, Ore.
Evans, Lina (Roskie)	Brookings
Fishback, Myra (Kennedy)	170 State St., Brooklyn, N. Y.
Harza, LeRoy F.	Civil Eng.,501 Lewis Bldg, Portland, Ore.
Hatton, Jno. H.	Forestry Service, San Francisco, Cal.
Johnson, Rhoda (Lee)	Died Oct. 18, 1909, Denver, Col.
Kendall, Leonard J.	Telegraph Operator, Brookings
Kennedy, C. LeRoy	Fruit Raiser, R. F. D., No. 18, Mountain View, Cal.
Langdon, Lillian (Culhane)	Brookings
McElmurry, Loretta,	Student Univ. Chicago, 1750 W. Congress St. Chicago
Mork, Theodore	Farmer, Des Lacs, N. D.
Phillips, Florence (Haas)	Teacher, Arlington
Phillips, C. Louise	Librarian, U. S. Dept. Ag., Washington, D. C.

PHARMACY GRADUATES.

Cornell, Edward	Drug Clerk, Bristol
Tidball, Clyde	Druggist, Brookings

Class of 1902.

BACHELOR OF SCIENCE.

Fleming, Michael	With M. A. Hanna Coal Co., Duluth, Minn.
George, William A.	Physician, Selby
Hart, Bertrand M.	Physician, Blunt

Hepner, Frank E. .. Ass't Station Chemist, Univ. of Wyoming, Laramie
Johnson, Clara (Johnson) .... Brookings
Johnson, Edward .... Died, Tacoma, Wash.
Kephart, George .... Lawyer, Sioux City, Ia.
Lee, Berton E............................Druggist, Badger, S. D.
Ramsey, Henry J.,Expert in Fruit Storage, Bureau Plant Industry, Washington, D. C.
Roskie, Geo.................................Abstractor, Brookings
Thornber, Edith (Cuckow) .... Brookings
Trooien, Ole N., Contractor in Concrete Work, 2647 Harriet Ave., Minneapolis, Minn.
Winegar, Laura .... Bookkeeper, Brookings

PHARMACY GRADUATES.

Allison, Wm. F., Prof. of Civil Eng., Colorado School of Mines, Golden, Col.
Boyden, Frank E. .... Physician and Surgeon, Heppner, Ore.
Christianson, Bernett C. .... Druggist, Volga
Hayter, McPherson .... Druggist, Artesian
Jarrett, Arthur A. .... Druggist, Colman
Jarvis, S. Hall..................................Druggist, Drew
Leighty, James A. .... Druggist, Winfred
Morton, Frederic M. .... Druggist, Sisseton
Pickles, Chester E. .... Farmer, Clark
Schnaidt, Henry .... Druggist, Parkston
Schroeder, Anna (Gassman) .... Howard
Thomas, John C. .... Druggist, Marion

Class of 1903.

MASTER OF SCIENCE.

Crane, Austin B. ....Civil Engineer, 04303 Lincoln St., Spokane, Wash.
Hoy, Howard H. .... Ass't. in Phy. and El. Eng., S. D. S. C.

BACHELOR OF SCIENCE.

Almond, Fred C. .... Died March 12th, 1909, at Clear Lake
Cole, John S., Examiner of Dry Land Agr. Exp. Stations, Dept. of Agr., Forestry Service Bldg., Denver, Col.
Colegrove, Lettie (Drew)......................5535 Ellis Ave., Chicago
Cuckow, Fred W. .... Lawyer, Brookings
Hubbart, Minnie (Holbein) .... Lansford, N. D.
Johnson, Isaac .... Lumberman, Brookings
Kendall, M. Krete .... Brookings
Langdon, Alice .... Stenographer, Brookings
Miller, Shirley P. .... Professor Zoology, S. D. S. C.
Norton, Frank A. .... Fruit Grower, Grand View, Wash.
Otterness, Jens M. .... Deputy State Food Insp., Vermillion
Peirce, E. Esther................................Teacher, Watertown

Sanborn, Ethel I............................Teacher, Eugene, Ore.
Sarvis, Roscoe J., Elec. Engineer, 1319, 7th St., S. E., Minneapolis, Minn.

PHARMACY GRADUATES.

Drew, Arthur W .... Medical Student, North Western Univ., Chicago
Hall, Roy J. .... Druggist, Oldham
Heston, Edward C. .... Physician, Roslyn, Wash.
Hollister, Arthur R. .... Druggist, Madison
Howell, John E.....Chemist, S. P. R. R., 2113 Conti Ave., Houston, Tex.
Johnston, Samuel .... Druggist, Vienna
Norton, Frank A. .... Fruit Grower, Grand View, Wash.
Steiner, Frederick W. .... Physician, Havre de Grace, Md.
Trumm, Robert E. .... Druggist, Hayti
Van Dusen, Fred J. .... Merchant, Spearfish
Seide, Louise (Prell) .... Calamus, Iowa
Webster, James L. .... Minister, Morris, Ill.
Westcott, Geo. R., Asst. Engr. Mo. Pac. Ry., 1806 Neb. St., St. Louis, Mo.

Class of 1904.

MASTER OF SCIENCE.

Trooien, Ole N., Contractor in Concrete Work, 2647 Harriet Ave., Minneapolis, Minn.

BACHELOR OF SCIENCE.

Binford, Wm. W........................Lumberman, Greenleaf, Idaho
Bushnell, Maude (Kelton) .... Henry, S. D.
Loucks, Anna Y. (Brown) .... Brookings
Mattice, Albert F. ..Physician, Care Am. Med. Ass'n. Vienna, Austria
McGarry, Lawrence R. .... Bank Cashier, Mansfield
Ruth, Thomas H. .... Veterinary Surgeon, De Smet
Sanderson, Everett G. .... Farmer, Arapahoe, Col.
Sherwin, Ralph L......Civil Engineer, Y. M. C. A. Bldg., Scranton, Pa.
Smith, Wm. H. ....Missionary, Manila, P. I.
Thompson, Clarence .... Farmer, Dell Rapids
Walter, L. Erving.................................Farmer, Conde
Williams, Percy ....Physician, Los Angeles, County Hospital, Cal.
Young, Alfred J. ....

PHARMACY GRADUATES.

Anderson, Ernest .... Druggist, South Shore
Dillon, Cornelius .... Druggist, Eugene, Ore.
Frick, Harry E...................................Merchant, Mitchell
Goodale, Alton R. .... Druggist, Aberdeen
Hooker, Henry .... Physician, Danville, Ill.
Koch, Arthur E. ....Chemist, 374 Euclid Ave., Detroit, Mich.
Ramsdell, Leonard C., Druggist, with Murgittroyd's Drug Co., Spokane, Wash.

Thompson, Gottfried .... Farmer, Dell Rapids
Weisflock, Theodore .... Druggist, Frankfort

Class of 1905.

MASTER OF SCIENCE.

Hepner, Frank E. .... Ass't Station Chemist, U. of Wyoming, Laramie
Norton, Frank A. .... Fruit Grower, Grand View, Wash.
Phillips, C. Louise......Librarian, U. S. Dept. Agr., Washington, D. C.
Thompson, Clarence .... Farmer, Dell Rapids
Walter, L. Erving..................................Farmer, Conde

BACHELOR OF SCIENCE.

Boyden, Guy L..........Physician, St. Mary's Hosp., Rochester, Minn.
Chappell, Bessie ....Teacher, Brookings
Chappell, Elsie (Wilson) ....Brfookings
Davis, Clifford W...........................Farmer, Moscow, Idaho
Elliott, Roy K.......Electrician, 26 Bay State Ave., Somerville, Mass
Fassett, Della (Loucks) .... Watertown
Fishback, Van Dusen .... Bank Clerk, Brookings
Forrest, Victor E. .... Contractor, Tyndall
Fulkerson, Vincent .... Special Agent, Dept. of Agr., Fallon, Nev.
Grove, Mary (Potter)................................Springfield, Ohio
Hage, Christian F. .... Druggist, Toronto
Howg, Edwin M. ....Physician, Greenbush, Minn.
Jensen, Lewis N. .... Farmer, Simpson, Col.
Johnson, Carl L........Electrician, 805 Lincoln Ave., Schnectady, N. Y.
Mathews, Harry E. .... Supt. Forest Reserve, Las Vegas, Nevada
Miller, Ralph L. .... Lumberman, Melville, N. D.
Murphy, Matt W. .... Lawyer, Fargo, N. D.
Nelson, John Harland,Prof. Structural Eng., Polytechnic Institute, Worcester, Mass.
Ronning, Oscar E. .... Teacher, Hazel
Schaphorst, Wm. F., Technical Engineer, 703 Park Row Bldg., N. Y. City, N. Y.
Seeger, Adolph M. .... Elec. Engineer, Toledo, Ohio
Slocum, Ina S. (Deeley)........2818 Grasville St., S., Vancouver, B. C.
Thogerson, Arthur A..........Contractor, 437 C. of C., Portland, Ore.
Walters, Daisy .... Teacher, Bruce
Williams, Harry.................................Santa Ana, Cal.
Williams, Percy..........Physician, Los Angeles, County Hosp., Cal.
Wilson, Elsie (Chappell) .... Brookings

PHARMACY GRADUATES.

Fjerestad, Carl .... Druggist, Elkton
Howg, Edwin M. .... Physician, Sisseton
Larson, Lars P. .... Teacher, Howard
Mathews, Harry E .... Supt. Forest Reserve, Las Vegas, Nev.

McCurdy, Walter .... Druggist, Lane
Morton, Grant J., Federal Drug Insp., 1818 Wright Bldg., St. Louis, Mo.
Pottinger, Geo........................Druggist, Valley Springs, S. D.
Thompson, Clarence .... Farmer, Dell Rapids
Volin, Porter .... Physician, Reliance

Class of 1906.

BACHELOR OF SCIENCE.

Aldrich, G. Malcolm .... Prin. Calhoun Schools, Mpls., Minn.
Barrett, J. Wylie............................Elec. Engr., Plankinton
Bonesteel, Bee (Dillman) .... Newell
Brownell, Ellen (Wellington)..........6326 Repton, Los Angeles, Cal.
Burghardt, Roy D.............Electrician, 700 Post St., Seattle, Wash.
Carpenter, Abbie J. .... Dom. Sc. Teacher, Grand Rapids, Minn.
Chilcott, Ellery F., ... Supt. State Ex. Station, Garden City, Kan.
Coller, Fred A..........Student, 72 Pinckney St., Harvard University
Davies, Gladys (Grace)......................................Akron, Col.
Erstad, Alfred J. ....Electrician, 46 2nd St., Portland, Ore.
Evans, Edna V. ....Dom. Sc. Teacher, New Hampton, Iowa
Grace, Oliver .... Supt. Sub. Sta., Akron, Col.
Kennard, Frank L....Instr. in Agronomy, State Univ., Moscow, Idaho
Knox, Arthur H. .... Farmer, Alpena
Koch, Arthur E. ....Chemist, 374 Euclid Ave., Detroit, Mich.
Moffat, Margaret E. ....Teacher, Downey, Idaho
Reich, Rose M.................................Teacher, Canastota
Thornber, Jessie B.........................Teacher, Pierce, Idaho
Youngberg, Guy E. .... Asst. in Chem., S. D. S. C.

PHARMACY GRADUATES.

Allison, Harold..............Physician, Alexian Bros. Hosp., Chicago
Bergeim, Olaf .... Student, Ills. U., Champaign, Ill.
Davies, Gladys (Grace) .... Akron, Col.
Harben, Bartlett L. .... Farmer, Hamill
Locke, Chas.................................Drug Clerk, Brookings
Wipf, Michael J..............................Druggist, Alsen, N. D.

Class of 1907.

MASTER OF SCIENCE.

Culhane, Michael E............Of Culhane Adjustment Co., Brookings

BACHELOR OF SCIENCE.

Binnewies, Mabel E...............................Teacher, Brookings
Briggs, Stephen F.........Of Briggs & Stratton Co., Milwaukee, Wis.
Burch, Walter S., Gen. Electric Co., 233 Liberty St., Schenectady, N. Y.
Christianson, Christine .... Prin. Schools, Sunnyside, Wash.
Dillman, Arthur C. .... Special Agent, Dept. of Agr., Newell, S. D.
Dutcher, R. Adams .... Dairy Chemist, Mo. Univ., Columbia, Mo.

Elliott, Bruce A..............Manual Training Teacher, Wells, Minn.
Elliott, Ross W.......Manual Training, Tech. H. S., Des Moines, Iowa
Fjerestad, Alman .... Elec. Engineer, Estelline
Gagel, Gerald.....................................Electrician, Rialto, Cal.
Hofstetter, Geo......Instructor Manual Training, Govt. School, P. I.
Kirk, John R...................Student of Agriculture, Madison, Wis.
Johnson, Aaron G., Student of Biology, 924 Clymer Place, Madison, Wis.
Knutson, Mabel (Trooien)......2647 Harriet Ave., Minneapolis, Minn.
McCordic, Clare..Machine Expert, Moose Jaw, Saskatchewan, Canada
McElmurry, Rilla ....Dietitian, 509 Honore St., Chicago, Ill.
Morton, Grant J., Federal Drug Inspector, 1818 Wright Bldg., St. Louis, Mo.
Reich, J. Carl ......Western Elec. Co., 1700 Jackson Bvd., Chicago, Ill.
Salmon, Cecil .... Special Agent Dept. Agr., Newell
Sanderson, Eugene Elec., Engineer,512 E. Jefferson St., Syracuse, N. Y.
Tuttle, Volney J.,..Gen. Elec. Co., 233 Liberty St., Schenectady, N. Y.
Underwood, Genevieve..........................Teacher, Watertown
Westcott, Ruth M. (Johnson)........924 Clymer Place, Madison, Wis.
Work, Mary I. ....Teacher, Watertown

PHARMACY GRADUATES.

Dexter, David F. .... Real Estate, Centerville
Roney, Ray W. .... Druggist Chester
Ennis, Herbert I. .... Druggist, Bruce
Kartrude, Inga M. .... Teacher, Hardwick, Minn.

Class of 1908.

MASTER OF SCIENCE.

Coller, Fred A. ....Med. Student, Harvard University
Koch, Arthur E. ....Chemist, 374 Euclid Ave., Detroit, Mich.

ELECTRICAL ENGINEER.

Elliott, Ross W. ......Manual Training, Tech. H. S., Des Moines, Iowa

BACHELOR OF SCIENCE.

Alton, Benjamin H., Med. Stu., Harvard U., 269 St. Botolph St., Boston Mass.
Bergeim, Olaf .... Student, Ills. U., Champaign, Ill.
Carpenter, Clarence A. .... Elec. Engineer, Rapid City
Chilcott, Ralph W. ....Vienna, Va.
Cooley, William R. .... Farmer, Tabor
Griffith, T. Edwin ....Farmer, Timmer, N. D.
Holsey, Ernest ....Elec. Eng., Deer Park, Wash.
Hubbard, Edith J......................................Brookings
Hyde, Hallie W. .... Instr. Dom. Sc., S. D. S. C.
Kelly, Amy .... Instr. Dom. Sc., S. D. S. C.
Kendall, Nellie G. ....Instructor in English, S. D. S. C.

Locke, Francis J. ..Electrical Eng., 513 Sumner St., West Lynn, Mass.
Mathews, Oscar R. ....Expert, Dry Land Agr., Newell
Mayland, Amy .... Died Feb. 17, 1909 at Lincoln, Neb.
Mayland, George R. .... Automobile Engr., Brookings
Nelson, Aaron L. ....Electrician, 253 E. 5th St., Erie, Pa.
Nilsson, Edward........Artist, 1028 Egleston Ave., Kalamazoo, Mich.
Olberg, Fred C. .... Druggist, Port Orchard, Wash.
Perry, William J.........Electrician, 836 State St., Schenectady, N. Y.
Soreng, Edward M. ....Electrical Engineer, Rockland Lake, N. Y.
Sperb, John J. ....Civil Engineer, Vancouver, B. C.
Ulrich, Darwin William, Electrical Engineer, 2605 Cal. Ave., Seattle, Wash.
Underwood, Beatrice .... Capitol, Mont.
Underwood, Loto R. .... Capitol, Mont.
Weeks, Gordon A., Mechanical Eng., 836 State St., Schenectady, N. Y.
West, Florence E. ....2709 Irving Ave. S., Minneapolis, Minn.
Whiteheatd, Lindsey W., Civil Engr., 1333 7th Ave. E., Calgary, Alberta
Williams, Ruby ....Teacher, Santa Ana, Cal.

PHARMACY GRADUATES.

Murphy, James P. .... Druggist, Broadland
Hoch, Joseph L. ....Drug Clerk, Vermillion
Olberg, Fred C. .... Druggist, Port Orchard, Wash.
Quiggle, Ernest J. .... Drug Clerk, Groton

Class of 1909.

MASTER OF SCIENCE.

Mathews, Oscar................Expert Dry Land Agriculture, Newell

MECHANICAL ENGINEER.

Schaphorst, William, Technical Engr., 703 Park Row Bldg., N. Y. City

ELECTRICAL ENGINEER.

Elliott, Bruce...............Manual Training Teacher, Wells, Minn.

BACHELOR OF SCIENCE.

Bacon, Eva F. .... Teacher, Castlewood
Bushnell, Edna ....Brookings
Camp, Fred .... Photographer, Huron
Catlett, Winifred ....Student, Wellesley Coll., Mass.
Champlin, Manley...................Asst. in Agronomy, S. D. S. C.
Clarke, Roy .... Theological Student, Meadville, Penn.
Coughlin, Chas ....Elec. Engr., 519 Jefferson St., Milwaukee, Wis.
Denhart, Cecil .... Real Estate, White
Erwin, Ada ....Instr. Dom. Sc., S. D. S. C.
Evans, Iva ....Teacher, Mitchellville, Iowa

Furnstahl, John ....Civil Engineer, Silver City, N. M.
Jensen, Harvey .... Law Student, Brookings
Jones, Robert ....Lawyer, 916 N. Y. Life Bldg., St. Paul
Kremer, Alvin..........Bookkeeper, U. S. Nat'l Bank, Portland, Ore.
Lane, Lloyd ....Elec. Engr., 1440 W. 60th St., Seattle, Wash.
McKeown, Ralph .... Farmer, Sentinel Butte, N. D.
Marquis, Sidney ....With Nat'n'l Foundry Co., Detroit, Mich.
Matheny, Chester ....Electrician, Box 539 Schenectady, N. Y.
Odland, John .... Farmer, Sentinel Butte, N. D.
Palm, Ellen .... Teacher, Norden
Peirce, Ruth ....Music Teacher, Brookings
Phillips, Geo. ....Automobile Expert, Brookings
Sarvis, Johnson .... Asst. Botany, S. D. S. C.
Sperb, Frank .... Civil Engr., Weiser, Idaho
Swering, Joe ....Electrical Engr., Brookings
Treacy, Timothy, Theological Student, 487 Mich. Ave. N E., Wash. D. C.
Vernlund, Carl, Med. Student, 168 St. Botolph St., Harvard Univ., Mass.
White, Orland, Student Biology, Bussey Inst., Forest Hill, Boston, Mass.
Wickre, Jacob .... Farmer, Langford
Wright, Mary .... DeSmet

PHARMACY GRADUATES.

Abbott, Guy S. .... Druggist, Yale
Buck, Ervin .... Druggist, Wessington Springs
Crosby, LeRoy .... Drug Clerk, Hitchcock
Dickey, James ....Druggist, Iroquois
Hage, Christian .... Druggist, Toronto
Wilson, Frank M. ....Druggist, Belgrade, Mont.
Youngberg, Guy .... Asst., Chem., S. D. S. C.

Class of 1910.

MASTER OF SCIENCE.

Alton, Benjamin .... Student, Harvard U., Mass.
Dutcher, Adams .... Dairy Chemist, Mo. U., Columbia, Mo.
Youngberg, Guy .... Asst. Chemistry, S. D. S. C.

MECHANICAL ENGINEER.

Hofstetter, George ....Instr. in Manual Training, Govt. School, P. I.

BACHELOR OF SCIENCE.

Atkinson, Fay .... Farmer, White
Barber, Floyd .... Civil Engineer, Everett, Wash.
Biggar, Howard H. ....Asst. in Agronomy, S. D. S. C.
Crothers, Harold ....Instr. in Math., S. D. S. C.
Crothers, Ralph ....Farmer, Badger

Fickle, Walter	Died Jan. 26, 1911 at Blunt
Fridley, Ray	Automobile Expert, Brookings
Grotta, Edwin	Civil Engr., Suffield, Alberta, Can.
Johnson, Charles	Civil Engineer, Sidney, B. C.
Johnson, Milla	Teacher, Hardwick, Minn.
Kartrude, Inga	Teacher, Hardwick, Minn.
Kelly, T. B.	Asst. Vet. Dept., S. D. S. C.
Lothrop, Elmer	Elec. Engineer, Redfield
Lloyd, Robert	Elec. Contractor, 1222 Story Bldg., Los Angeles, Cal.
Matheny, Allie	Teacher, Kenmore, N. D.
Matheny, Fred	Civil Engineer, 329 Queen Anne Ave., Seattle, Wash.
Morrison, Joseph	Farmer, Ex. Substation, Highmore
Nagel, Herman	Actor, 342 W. 58 St., New York City
Ort, A. A.	Student, Wis. U., 740 Langdon St., Madison, Wis.
Palm, Andrew	Farmer, Norden
Sexauer, Elmer	Flour Manuf., Brookings
Sheldon, Nettie	Teacher, Brookings
Wahl, Walker W.	Farmer, Columbia
Welch, Cecile	Instr., S. D. S. C.
Wohlheter, Verne	Law Student, Mich. U., Ann Arbor, Mich.
Yocom, Frank	Science Teacher, Lake Crystal, Minn.

PHARMACY GRADUATES.

Brown, Geo. B.	Drug Clerk, Wessington Springs
Goldthorp, George	Druggist, Conde
Morrison, Joseph	Farmer, Ex. Substation, Highmore
Williams, Arthur	Drug Clerk, Conde

Class of 1911

BACHELOR OF SCIENCE

Balmat, John	Real Estate Dealer, Scarritt Bldg., K. C., Mo.
Catlett, Marguerite,	Student, Wellesley Coll., Boston, Mass.
Cooledge, Leslie	Student Instr., Univ. of Mo., Columbia, Mo.
Cottingham, Jay	Lumberman, Mount Vernon
Erwin, Ruth	Brookings
Finley, Vollmar	Instr. in Agr., Redwood Falls, Minn.
Fridley, Bess	Instr. in Dom. Sc., Dundee, Ill.
Fridley, Richard	Automobile Dealer, Brookings
Fromme, Fred	Student Instr., Botany, Columbia Univ., N. Y. City
Gropengieser, Fred	Elec. Engr., Onida
Haas, Carrie	Teacher, Bancroft
Hallen, Harold	Elec. Engr., Wilkinsburg, Penn.
Huntimer, Percy	Instr. in Agr., Ida Grove, Iowa
Jarman, Maebelle	Brookings
Johnson, Clifford	Dairy Asst., S. D. S. C.

Knutson, Geneva (Flittie)	Brookings
Ladd, Amy	Brookings
Mathewson, Lynn	Farmer, Tripp, S. D.
McMillan, Orville	Farmer, Alpena
Meharg, Max	Teacher, Goodings, Idaho
Mitchell, Harry	Elec. Engr., Wilkinsburg, Penn.
Odland, Ole M.	Farmer, Hurley
Peterson, Helen	Teacher, Brookings
Plocker, Florence	Teacher, Seneca
Quinn, Roy	Instr. in Agr., Park Rapids, Minn.
Randall, Frank	Mech. Engr., Aberdeen
Sherwin, Muriel	Instr. in School of Agr., S. D. S. C.
Starring, Cecil	Instr. in Hort., Univ. of Io., Moscow, Idaho
Swenehart, John	Instr. in Agr., Jordan, Minn.
Throop, Lotta (Odland)	Sentinel Butte, N. D.
Tinker, Mable	Student, S. D. S. C.
Wilson, R. O.	Mill Mgr., Bozeman, Mont.

PHARMACY GRADUATES

Fellows, Carl	Drug Clerk, Plankinton
Martin, Earl S.	Druggist, Cherokee, Iowa
Serles, Earl	Drug Clerk, Brookings
Shea, Henry	Student, S. D. S. C.
Vis, Heyme	Drug Clerk, Harrison

STUDENT LIST

Graduate Students

Bolles, Laura	Brookings
Biggar, Howard	Brookings
Champlin, Manley	Brookings
Crothers, Harold	Brookings
Johnson, Clifford D.	Huron
Tinker, Mabel	Brookings
Tolstrup, Mogens R.	Brookings
Woodworth, C. M.	Brookings

COLLEGIATE STUDENTS

Seniors

Atwood, George B.	Agriculture	Erwin
Bibby, Irwin J.	Agriculture	Galesville, Wis.
Bisbey, Guy R.	Pharmacy	Aurora
Dachtler, Fred J.	Civil Engineering	Sturgis
Edson, Ray W.	Electrical Engineering	Alcester
Erdmann, Henry E.	Agriculture	Corsica
Granger, Paul F.	Civil Engineering	Brookings
Hathaway, Floyd C.	Agriculture	Winnebago, Minn.
Jensen, Russell C.	Agriculture	Mitchell
Kremer, Henrietta	General Science	Brookings
Larson, John E.	Agriculture	Fairfield, Iowa
Marchant, Guy B.	Electrical Engineering	Redfield
Oakland, Irwin S.	Agriculture	Corsica
Peck, Arthur R.	Electrical Engineering	Windsor, Conn.
Pence, Clay	Electrical Engineering	Howard
Reeve, John E.	Electrical Engineering	Howard
Revell, Grace A.	General Science	Brookings
Sauder, William O.	Agriculture	Milwaukee, Wis.
Schaphorst, Ben	General Science	Brookings
Skinner, Lila	Home Economics	Brookings
Sparks, Henry	Civil Engineering	Sturgis
Stearns, Arthur J.	Electrical Engineering	Pierre
Welker, Verne E.	Electrical Engineering	Redfield

Juniors

Basgen, Fred	Electrical Engineering	Goodwin
Binnewies, Edw. R.	General Science	Colman
Brigham, Ruth	General Science	Brookings
Cole, Glenn H.	Agriculture	Gary
Dunn, E. W.	Civil Engineering	Summit
Earl, Lorne T.	Agriculture	Mt. Vernon
Faulkner, Hugh A.	Mechanical Engineering	Burkmere
Fowlds, Matthew	General Science	Arco, Minn.
Freiberg, George W.	General Science	Fitzen, Minn.
Furnish, Alta	General Science	Bunceton, Mo.
Greenly, Maurice G.	General Science	Clear Lake
Heiser, Agnes	Home Economics	White
Huyck, Nina B.	Home Economics	Lebanon
Hyde, Lloyd	General Science	Brookings
Johnston, Sarah	General Science	Brookings
Kremer, Ralph	Agriculture	Brookings
Landweer, Earl	Electrical Engineering	Hartford
Matheny, Hazel	Home Economics	Conde
Morrow, Strayer	Home Economics	Brookings
Nilsson, Anna	General Science	Gary
Nord, Roy	General Science	Brookings
Olson, Thos. G.	Electrical Engineering	Canby, Minn.
Rilling, Harry	General Science	Brookings
Sanderson, Harry	Agriculture	Brookings
Shanly, Clarence	Agriculture	Mansfield
Shea, Henry	Pharmacy	Brookings
Shepard, Helen	General Science	Brookings
Sloan, Edith	Home Economics	Brookings
Sloan, Sam	Agriculture	Brookings
Somers, Grace	Home Economics	Brookings
Templeton, Mabel	General Science	Wessington
Vercoe, Lewis	Civil Engineering	Carthage
Wood, Ruth	General Science	Hot Springs

Sophomores

Armstrong, Lillian	Home Economics	Brookings
Armstrong, Inez	Home Economics	Brookings
Ausman, Leslie	Agriculture	Wessington Springs
Bacon, Harry	Pharmacy	Brookings
Britzius, Arno	Agriculture	Aberdeen
Bushey, Alfred	Agriculture	Castlewood
Casley, Lulu	Home Economics	Brookings
Chappell, Vincent	Agriculture	Brookings

Christianson, Helen	Pharmacy	Volga
Clark, Robert W.	Pharmacy	Pierre
Clifford, Perry	Agriculture	Cresbard
Dulitz, Helen	Home Economics	Webster
Elliott, Robert	General Science	Brookings
Evans, Roy	Electrical Engineering	Brookings
Farnham, Bernice	Pharmacy	Milbank
Farrar, Vere	Pharmacy	Langford
Gilbertson, George	Agriculture	Castlewood
Gotthold, Roy C.	Mechanical Engineering	Brookings
Grant, Clyde	Pharmacy	Walnut Grove, Minn.
Grinols, Hazel	Home Economics	Brookings
Gropengieser, Bessie	General Science	Onida
Hallen, Winnie	Home Economics	Brookings
Halladay, Clinton	Civil Engineering	Iroquois
Hartgering, Frances	Home Economics	Rapid City
Heck, Emil	Civil Engineering	Brookings
Holstrom, Will A.	Pharmacy	Howard
Holleman, William	Pharmacy	Springfield
Hofstetter, Clarence	Electrical Engineering	Mitchell
Hurd, Iva	General Science	Brookings
Kelly, Eugene	General Science	Brookings
Leavitt, Ethel	Pharmacy	Milbank
Legler, Edward	Electrical Engineering	Redfield
Lockhart, James	Agriculture	Brookings
Luebke, Esther	General Science	Castlewood
Serles, Raymond	Pharmacy	Brookings
Sexauer, Laura	Home Economics	Brookings
Sherwood, Reginald	General Science	De Smet
Slightam, Kate	Home Economics	Brookings
Somers, Ruth	General Science	Brookings
Temmey, Leo	General Science	Onida
Treacy, James	Agriculture	De Smet
Valentine, Vey	Agriculture	White
Wilkins, Scott	Agriculture	Mitchell
Wills, Ernest	Electrical Engineering	Brookings
White, Henry	General Science	Delmont
Wornson, Walter	Pharmacy	Brookings
Wood, Nina	Home Economics	Brookings

Freshman

Aldridge, Sherman	Agriculture	Armour
Austin, Mae	Secretarial	Brookings
Boden, Cecil	Pharmacy	Doland

Bolland, Jens	Agriculture	Pierpont
Brown, Ruth	Normal Course	Sturgis
Burkhardt, Frank R.	Pharmacy	Milbank
Caldwell, Florence A.	Home Economics	Brookings
Caldwell, Lacey M.	Agriculture	Brookings
Catlett, J. Bland	Agriculture	Brookings
Clark, B. E.	Pharmacy	Brookings
Cooley, Hazel	Normal Course	Garretson
Culhane, Alex	Agriculture	Brookings
Culhane, R. J.	General Science	Brookings
Culhane, James	General Science	Brookings
Donaldson, Beatrice	Secretarial	Brookings
Drury, Lillian	General Science	Chamberlain
Dye, Leonard	Agriculture	Richards
Eidsmoe, Clark	Pharmacy	Beresford
Freeman, John D.	Agriculture	Lead
Gardner, H. H.	Agriculture	Sturgis
Gilbert, Gladys	General Science	Brookings
Gold, Milton J.	Agriculture	Big Stone City
Greeves, Earl E.	General Science	Miller
Gullick, Genevieve	Home Economics	Brookings
Haehner, Bernice	Electrical Engineering	Alexandria
Hale, Ruth V.	Home Economics	Carrington, N. D.
Hicks, John	Civil Engineering	Brookings
Houghton, Jay	Civil Engineering	Osceola
Iverson, Carrold	Agriculture	Brookings
Jerde, Edna	Home Economics	Brookings
Johnson, Arthur F.	Pharmacy	Springfield, Minn.
Johnson, Carl	Civil Engineering	Brookings
Jurgens, Fred	Secretarial	Elkton
Keck, Dallas	Agriculture	Brookings
Kornder, Howard	Electrical Engineering	Armour
Kremer, Frank	General Science	Brookings
La Grave, Edward	Secretarial	Fairibault, Minn.
Lanphier, Ira	Civil Engineering	Brookings
Lawrence, Lester	Pharmacy	Doland
Lynch, Arthur	Agriculture	Brookings
McAllister, Rush	Agriculture	Flandreau
McFarland, V. H.	Agriculture	Big Stone City
McKnight, Birdella	Secretarial	Brookings
Mears, Hugh	General Science	Brookings
Mueller, Lena E.	Secretarial	Hot Springs
Nord, Florence	Home Economics	Brookings
Null, Ralph	Pharmacy	Miller
Olmstead, Mabel	Normal Course	Brookings

Peterson, Edith	Normal Course	Brookings
Pilmer, Miller	Agriculture	Brookings
Potter, Ernest C.	General Science	Athens, Pa.
Pratt, Vern W.	Mechanical Engineering	Elkton
Quinn, Arthur	Pharmacy	Arlington
Ritzman, Leon D.	Electrical Engineering	Canova
Sample, Evangeline	Home Economics	Brookings
Sharf, R. A.	Agriculture	Summit
Simpson, W. R.	Pharmacy	Flandreau
Sloan, Lyle	Electrical Engineering	Alexandria
Somers, Louden	Agriculture	Summit
Tyson, Edith	Secretarial	Brookings

College Specials

Campbell, Eugene	Brookings
Donaldson, Neil	Brookings
Ellerman, Ernest	Yankton
Engstrom, Carl	Redfield
Fassett, Gladys	Brookings
Gurslee, Chris. B.	Hendricks, Minn.
Jensen, Frank	Mitchell
Kendall, Crete	Brookings
King, Stanley	South Shore
Lenocker, Everett	Brookings
McGregor, Alexander	Yankton
Millham, Charles	Brookings
Morton, Richard	Brookings
Orth, Ruby	Brookings
Pier, Clarence L.	Woonsocket
Shepard, Bert	Brookings
Slaymaker, Elizabeth	Brookings
Sponholz, Lydia	Madison
Spurling, Ethel	Brookings
Taylor, Bessie I.	Sleepy Eye, Minn.
Young, S. A.	Ramsey, Ill.

PREPARATORY STUDENTS

Third Year

Alrick, Lillia	Brookings
Alexander, David	Delmont
Anderson, Leslie	Brookings
Bogstie, Emma	Brookings
Casey, Vera	Watertown
Dakin, Carl	Brookings
Dewing, Dexter	Brookings
Digre, Martin	Hendricks, Minn.
Etting, Ruth	Brookings
Fjerestad, Bertha	Estelline
Fournier, Leon	Cambridge, Mass.
Fryer, Julia	Doland
Grinols, Mavis	Brookings
Gross, W. G.	Brookings
Hendricks, Clair W.	Bushnell
Hicks, Lucy	Brookings
Holliday, Lloyd	Brookings
Huyck, Ida H.	Lebanon
Jennings, Hollace H.	Estelline
Jensen, Ross H.	Brookings
King, Katherine	South Shore
King, Charles	Brookings
Klein, Mildred	Magnolia, Minn.
Larson, Elmer	Colton
Lawler, Frank M	Ree Heights
Lehner, Beatrice	Brookings
Lynch, Ruth	Brookings
Lynch, Edward	Brookings
Mailey, Ina	Brookings
Mears, Hazel	Brookings
Otto, Clive H.	Tripp
Pope, Donald	Estelline
Ripley, Blanche	Ramona
Sample, Joseph	Brookings
Schad, John	Summit
Scotchbrook, Frances	Wessington
Scotchbrook, Carl	Wessington
Slaymaker, Edith	Brookings
Strachan, Thomas	Chelsea

Street, Thomas M.	Albee
Trygstad, George A	Brookings
Ulring, Thea	Luverne, Minn.

Second Year

Beals, Edna	Brookings
Beals, Mamie	Brookings
Briggs, Cyrus	Sheldon, Iowa
Christian, Einer	Chicago, Ill.
Cruson, Fern	Duncan
Giannonatti, Elene	Ludlow
Giannonatti, Andrew	Ludlow
Gilbertson, Gilbert	Brookings
Holmes, Walter	Brookings
Holmes, Clara	Brookings
Knox, Frank	Huron
McKay, Milton	Orient
Martinson, Anne	Brookings
Nusbaum, Chas. A	Pulaski, Iowa
Nyhuse, Lena M.	Lake Benton, Minn.
Olson, Florence	Brookings
Prentice, Jennie	Brookings
Riis, Jens	Denmark
Smith, Harold	Fairburn
Swenehart, Millie	Brookings
Tinker, Bessie	Brookings
Weber, Anna	Farmer

First Year

Benson, Clara	Tyler, Minn.
Brandt, John	Tripp
Bucholz, G. Adolph	Brookings
Cook, Robert S.	Alpena
Dutt, Earling	Beulah, Wyoming
Eggert, Rudolph	Tripp
Fendrick, John A.	Salem
Hoff, Conrad	Brookings
Jensen, Gladys	Brookings
Johnson, Laura	Yankton
Johnson, Ella	Brookings
Martyn, Clarence W.	Brookings
Nedro, Leland D.	Centerville
Schlaefli, Emma	Yankton
Sime, Ed. P.	Beresford
Sutton, Mabel	Brookings

West, Minnie	Lake Benton, Minn.
Wilson, Edith	Bushnell
Zirbes, Nicholas	Watertown

Music Students

Alrick, Lillia	Piano	Brookings
Benson, Clara	Piano	Tyler, Minn.
Bogstie, Emma	Piano	Brookings
Caverhill, W. A	Clarinet	Castlewood
Caverhill, Fred	Piano	Castlewood
Crevier, Wm.	Piano	Jefferson
Cunningham, Ray	Voice	Conde
*Erwin, Ruth	Piano	Brookings
Fassett, Gladys	Piano	Brookings
Fjerestad, Bertha	Piano	Estelline
Freiberg, Geo.	Voice	Eitzen, Minn.
Fryer, Julia	Piano	Doland
Fuerstenau, Wesley J.	Cornet	White
Gardner, George	Voice	Orient
Gerner, Wm.	Violin	Platte
Giannonatti, Elene	Piano	Ludlow
Giannonatti, Andrew	Cornet	Ludlow
Grinols, Mavis	Piano	Brookings
Gurslee, Chris. B.	Voice	Hendricks, Minn.
Hicks, Lucy	Piano	Brookings
Horton, H. D.	Violin	Linden, Iowa
*Hubbart, Edith	Voice	Brookings
Huyck, Ida	Violin	Lebanon
Jensen, Gladys	Piano	Brookings
Johnson, Ella	Piano	Brookings
Jorgensen, John P.	Violin	Viborg
Karlstad, C. H.	Voice	Dempster
Karr, Hazel	Voice	Brookings
Keeler, Earl	Cornet	Frederick
Lanphier, Ira	Violin	Brookings
Lynn, Floyd	Violin	Huron
McKay, Milton	Clarinet	Orient
Mears, Hazel	Piano	Brookings
Orth, Ruby	Piano	Brookings
Prentice, Jennie	Piano	Brookings
Rehnke, Ernest	Violin, Piano	Crandon

Ruhlman, Donald	Clarinet	Rockham
Sample, Joseph	Cornet	Brookings
Schrader, Fred	Trombone	Lake Preston
Schlaefli, Emma	Piano	Yankton
Skinner, Lila	Voice	Brookings
Smith, Agnes	Piano	Freeman
Smith, J. H.	Voice	Roslyn
Swenehart, Millie	Piano	Brookings
Stengel, S. W.	Voice	Milbank
Sutherland, Inglis	Violin	Castlewood
Taylor, Bessie I.	Piano	Sleepy Eye, Minn.
Willett, George W.	Cornet	Tulare
Zirbes, Nicholas	Clarinet	Watertown

* Classified in music only.

SCHOOL OF AGRICULTURE STUDENTS

Third Year

Caverhill, Fred	Castlewood
Caverhill, W. A.	Castlewood
Crist, Veda M.	Wessington Springs
Downer, Nellie M.	Freeman
Fasbender, Veronica	Hendricks, Minn.
Gardner, George	Orient
Gerner, Agnes	Platte
Gross, Elwood	Madison
Horton, H. D.	Linden, Iowa
Johnston, Harry S.	Bruce
Karlstad, C. H.	Dempster
Koch, Maggie	Duncan
McKay, Archie M.	Orient
Marquardt, Albert	Wentworth
Molskness, Mattie	Colman
Norman, Evan	Clear Lake
Nord, Axel O. E.	Milbank
Reeves, Delbert	Volga
Ruhlman, Robert	Rockham
Sebring, Fred	Orient
Sharp, Clarence	Bristol
Skogstad, Alfred	Florence
Smith, J. H.	Roslyn

Smith, Walter C.	Selby
Soreng, Alfred	Florence
Stengel, S. W.	Milbank

Second Year

Abrahamson, Melvin O.	Mt. Vernon
Baxter, Grace	Grover
Bickel, Frank H.	Elrod
Cunningham, Ray	Conde
Dimick, Lyle	Vermillion
Dokken, Arthur	Astoria
Dutton, Henry	Brookings
Elsom, David A.	Britton
Flint, Sylvia L.	Oldham
Fromme, John H.	Summit
Gilbert, Winnie H.	Prosser, Washington
Gusler, Glen	Winner
Heffernan, Thomas	Big Stone
Keck, Charles J.	Brookings
Knudson, Otelia	De Smet
Kurtz, Fred	Bushnell
Lacher, Joseph	Ipswich
Lakings, Alva	Hurley
Lawson, Clarence	Brookings
Lyman, Howard F.	Ethan
McGaffee, Perry	Harrold
Martin, Charles E.	Deadwood
Nicol, James D.	Pioneer
Nolte, William	Butler
Pilmer, George W.	Brookings
Price, William G.	Tulare
Ruhlman, Donald	Rockham
Schrader, Fred	Lake Preston
Thompson, Edward C.	Lily
Tilly, John	Grover
Wachtman, Arthur E. A.	Oldham
Williams, Robt. F.	Platte
Willett, George W.	Tulare
Wood, Milton R.	Brookings

First Year

Anderson, Oscar	Brandt
Andressen, Henry	Tea

Amsden, Bruce	Groton
Bickett, Earl	Oldham
Boekelheide, H. H.	Northville
Bly, Harvey J.	Garretson
Carter, Bertha	Menno
Crane, George W.	Ramona
Crevier, William	Jefferson
Cruson, James F.	Duncan
Deville, Rosa	Watertown
Dutton, Frank	Hardingrove
Fee, Howard	Cherokee, Iowa
Fuerstenau, Wesley J.	White
Geddes, Alfred	Foreston, Minn.
Gerner, Wm.	Platte
Gilkerson, James	Armour
Glendenning, Alta Lynn	Rushville, Nebr.
Graves, Howard	Clark
Graves, Charlie L.	Ashton
Gregg, Clark	Hartford
Green, John J.	Brookings
Groce, John H.	Ramona
Gross, Myrtle L.	Madison
Griffith, Orloff B.	Peetz, Col.
Griffith, Harold	Cresbard
Halverson, Henry	Oldham
Haugen, George	Dell Rapids
Herron, Lawrence	Gettysburg
Hodgin, Flavia	Reliance
Hodgin, Francis	Reliance
Hood, Leigh	Groton
Johnson, Conrad	Salem
Keeler, Earl Jay	Frederick
Keith, Holt	Armour
Larson, Waldmar	Vilas
Linn, Elmer	Elm Springs
Long, Vinge M.	Webster
Loriks, Emma	Arlington
Lynn, Floyd A.	Huron
McFadden, Edgar	Webster
McFarling, Oscar	Wolsey
McKee, Inez Victoria	Wagner
Mellem, Edna	Viborg
Moe, Joseph	Baltic
Nicol, Jessie L.	Pioneer
Overgaard, Oscar	Wagner

Petry, Tom	Hawarden, Iowa
Pike, Anna C.	Brookings
Putzke, Clarence E.	Humboldt
Risty, Albert R.	Brandon
Ritman, Herman	Brookings
Savage, Dwight	Sioux Falls
Schmidt, Emma	Alpena
Schrader, Gus	Lake Preston
Sedgwick, Caro A.	Crow Lake
Seliger, Ernest	Winfred
Sellers, Clarence	Belle Fourche
Semple, William	Brookings
Steiber, Sherman	Madison
Stene, Enoch C.	Beresford
Stead, Frank	Arlington
Stitt, Vernon P.	Hitchcock
Sutherland, Inglis	Castlewood
Swanson, Jennie C.	Chamberlain
Swanson, Victor E.	Strandburg
Trautman, Paul	Verdi, Minn.
Wolff, Otto	Parker
Wolff, Leona	Parker

SHORT COURSE STUDENTS

Steam Engineering

Bodenner, Miles H.	Fairburn
Cahill, Neil	Letcher
Christensen, Nels	White
Crisp, Harry C.	Dell Rapids
Dyboig, Helmer A.	Colton
Hillestad, Anton	Hitchcock
Hugaas, Emil	Hetland
Lohan, John	Arlington
Lunde, Peter	Vienna
Nord, Axel O. E.	Milbank
Olsen, Elmer	Sherman
Rehnke, Ernest	Crandon
Rishoi, Alfred H.	White
Schmidtgall, Reinhold	Menno
Smith, Harold C.	Fairburn
Smith, Howard D.	Hitchcock
Stead, Frank H.	Arlington
Swift, Jesse E.	Canton
Thompson, Lewis	Letcher
Thurow, Carl	Ramona
Tvedt, Bennie Martin	Hudson
Weick, John Elmer	Plankington
Wek, Oscar	Freeman
Zirbes, Nick H.	Watertown

Three Months' Agriculture

Biggar, Morris	Brookings
Christensen, Sam	Freeman
Christensen, Edward	Freeman
Dickman, Edward	Freeman
Ebeling, George D.	Marion Jct.
Fargo, Albert J.	Gayville
Haase, Louis	Parker
Halverson, Herbert R.	Kenneth, Minn.
Healy, J. F.	Irene
Johnson, Mavin B.	Lake Peston
Jorgensen, John P.	Viborg
Klungness, Clarence A.	Garretson
Koch, Richard O.	Sherman

Krapf, Otto L.	Cavour
Mathiesen, W. H.	Watertown
Mueller, Oscar	Madison
Nicol, James D.	Pioneer
Olson, Fred	Wessington Springs
Strunk, Henry G.	Irene
Risty, Alfred Tidemann	Sioux Falls
Trooien, Ole N.	Hendricks, Minn.

Three Months' Dairy and Creamery Course

Albertson, Enos	Brookings
Anderson, Bert R.	Vilas
Anderson, Chas.	Lake Preston
Banks, Robert Henry	Richardson, Wis.
Christoffersen, Rasmus	Omaha, Nebr.
Dons, Hjalmar	Carlos, Minn.
Ferguson, Edward	Trent
Larson, Waldemar	Vilas
Lofthouse, Chas. E.	Paradise, Utah
Meehan, T. A.	Belle Fourche
Ommodt, Bennett	Bowman, N. D.
Petterson, Edwin	Renner
Trooien, Nithen C.	Astoria
Voldstad, Nicolay	Greenville
Wittstruck, Frank	Mitchell

Two Weeks' Agriculture Students

Alness, Hjalmer B.	Canton
Clouse, W. A.	Miller
Morris, Wesley	Brookings
Morris, Frank	Brookings
Moen, Emil G.	Hudson
Mueller, George H.	Madison
Sletten, Karl	Canton
Spear, Kenneth M.	Draper

Three Months' Home Economics Course

Carter, Bertha	Menno
Deville, Margaret	Watertown
Fargo, Etta	Gayville
Hansen, Inga	Freeman
Smith, Agnes	Freeman
Twidwell, Mabel	Brookings
Wangsness, Ada	Garretson

SUMMER SCHOOL STUDENTS

Armstrong, Gladys	Brookings
Bacon, Eva	Brookings
Bagley, Frances	Brookings
Bertness, Clara	Brookings
Blakely, Herbert	Brookings
Bogen, Sam	Hendricks, Minn.
Bolles, Laura	Brookings
Bolles, Mrs.	Brookings
Briggs, Bernice	Chicago, Ill.
Briggs, Edurina	Manchester
Button, May	Carthage
Caldwell, Helen	Brookings
Caldwell, A. F.	Brookings
Canfield, Ethel	Brookings
Carlson, Esther	Bruce
Casserly, Margaret	Elkton
Casserly, Saidee	Elkton
Chappell, Bess	Brookings
Clark, Ethel	Langford
Coleman, A. D.	Bruce
Cunningham, Beulah	Brookings
Davis, Clara	Brookings
Elston, Hazel	Aurora
Elston, Gladys	Aurora
Enos, Winnifred	Brookings
Erickson, Minnie	Bruce
Erickson, Lottie	Bruce
Erickson, Carl	Hendricks, Minn.
Evans, Edna	Brookings
Evans, Iva	Brookings
Evenson, Alvira	Volga
Fasbender, Frank	Bruce
Feeney, Margaret	Elkton
Fenn, Etola	Brookings
Ferguson, Elmer	White
Fish, Chas.	Bruce
Forseth, Gina	Hendricks, Minn.
Friedel, Amanda	Bruce
Getty, Janey	Brookings
Gilbertson, Ida	Brookings

Gilbertson, Mary	Castlewood
Gilbertson, Gurina	Castlewood
Gilbert, Gladys	Brookings
Gleason, Rose	Elkton
Glen, Mary	Aurora
Green, Carrol	Brookings
Gunderson, Ida	Volga
Hallen, Winnie	Brookings
Hanson, Hilda	Oldham
Hast, Sidonia	Bruce
Hawkins, Maude	Brookings
Heck, Elizabeth	Elkton
Heck, Anna	Elkton
Heiser, Elizabeth	White
Heiser, Marie	White
Hendrickson, Mathilda	Lake Preston
Hiekman, E. W.	Aurora
Hoffman, Martha	Bruce
Hoffman, Theresa	Bruce
Holland, Elizabeth	Elkton
Honske, Emily	Oldham
Honske, Susan	Oldham
Hoy, Chas.	Gary
Hoy, Mary	Gary
Hoovey, Carl	Bruce
Hutchinson, J. H.	White
Iverson, Selma	Brookings
Jensen, Gladys	Brookings
Jensen, Inga	Brandt
Johnson, Clyde	Bruce
Johnson, W. H.	Brookings
Jolley, Mrs. Ada	Brookings
Jordan, Madge	Arlington
Judd, Laura	Bushnell
Karlstad, Selma	Brookings
Kerger, Lizzie	Arlington
Koehne, Norma	Oldham
Lanphier, Eva	Brookings
Lanphier, Ira	Brookings
Lehner, Beatrice	Brookings
Little, Florence	Tipton, Iowa
Looysen, Sara	White
Long, Mrs. Lester,	Brookings
Lorden, Agnes	Elkton
Lorden, Nellie	Elkton

McCarthy, Rosalia	Elkton
McElmurry, Loretta	Brookings
McKnight, Eva	White
Marshaan, Grace	Brookings
Martin, Ina	White
Meyer, Stella	Elkton
Meyer, Ella	Elkton
Mitchell, Arthur	Volga
Moe, Chas	Bruce
Moe, Jettie	Bruce
Moffatt, Margaret	Brookings
Morris, Jennie	Aurora
Murphy, Mae	Brookings
Myhres, Clara	Arlington
Nelson, Grayce	Toronto
O'Leary, Mary	Elkton
Olmstead, Hazel	Brookings
Otterness, Ida	Brookings
Parks, Eva	Bushnell
Parks, Delia	Bushnell
Parker, Mrs. Alfred	Bruce
Patterson, Eunice	Brookings
Paulson, Dagny	Brandt
Perry, Jennie	Brookings
Peterson, Helen	Brookings
Phillips, Florence	Brookings
Pilmer, Mrs. R. A.	Brookings
Plocker, Florence	Brookings
Puhl, Edw.	Bushnell
Revell, Alma	Brookings
Revell, Marie	Brookings
Ridout, Grace	Brookings
Roberts, Ina	Elkton
Ross, Ethel	Arlington
Rudolph, Rae	Aurora
Seivert, Vera	Elkton
Simmons, Joel	White
Sloan, Margaret	Brookings
Sloan, Janet	Brookings
Sloan, Edith	Brookings
Smith, Mamie	Brookings
Southard, Teena	Aurora
Stead, Reva	Arlington
Stearns, Mae	Brookings
Stermer, Laura	White

Strong, Loretta	Elkton
Sutton, Olive	Brookings
Sveen, Olga	Brookings
Sveen, Alfred	Brookings
Thomas, Carrie	Brookings
Thompson, Clara	Brookings
Thornber, Jessie	Brookings
Thorsness, Anna	Sinai
Tisdale, Mrs. Alice	Sinai
Tuttle, Dora	Arlington
Ullom, Edna	Flandreau
Walters, Daisy	Bruce
Wilson, Mary	Aurora
Wilson, Ada	Elkton
Wunsch, Marie	Elkton

Three Weeks' Automobile Course

Ahern, Frank	Brookings
Bart, Clayton	Ramona
Benson, Arthur L.	Hartford
Bockhoven, H. C.	Clark
Callahan, Wm.	Brookings
Cole, Jessie	Brookings
Donaldson, D. N.	Brookings
Earley, John	Flandreau
Hardy, Harold	Clark
Haugen, Lewis N.	Hartford
Hillestad, Albert	Brookings
Holbach, Willie	Colman
Hyde, Hallie	Brookings
Jacobson, J. A.	Sioux Falls
Johnson, Howard	Brookings
Justice, Guy W.	Spencer
Johnson, Einer	Viborg
Johnson, Ingvald	Viborg
King, Charles	Brookings
Larson, Eddie	Hetland
Levander, R. A.	De Smet
Lewis, Merle	Sioux City
Majestad, Lewis	Arlington
Malone, R. S.	Huron
Mueller, Oscar	Madison
Nord, Axel E.	Milbank
Osvog, Ben	Canton

Otterby, Joseph	Baltic
Parks, Kinsey	Trent
Parks, Ervin	Colton
Peterson, Dan	Colton
Richmond, Irl	Clark
Rudolph, S. J.	Brookings
Sellers, Clarence	Belle Fourche
Sexauer, Laura E.	Brookings
Schad, Jakie	Summit
Shadle, J. J.	Aberdeen
Sheldon, Nettie	Brookings
Sherman, Charley W.	Ramona
Sherwin, Frank	Brookings
Singsaas, Albert A.	Hendricks, Minn.
Smith, Howard	Hitchcock
Swift, James E.	Brookings
Ullyott, Edgar O.	Clark
Vilas, E. E.	Clark
Vogel, G. L.	Bonilla
Walton, Albert	Hitchcock
Zimmer, N. J.	Faith

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Graduate Students		8
Collegiate Students—		
Seniors	23	
Juniors	33	
Sophomores	47	
Freshmen	60	
Specials	21	
	——	184
Preparatory Students—		
Third Year	42	
Second Year	22	
First Year	19	
	——	83
Music Students		49
School of Agriculture—		
Third Year	26	
Second Year	34	
First Year	69	
	——	129

Short Course Students—		
Steam Engineers	24	
Three Months' Dairy	15	
Three Months' Home Economics	7	
Three Months' Agriculture	21	
Two Weeks' Agriculture	8	
Three Weeks' Automobile Course	48	
		123
Summer School Students		145
Total		721
Names Repeated		58
Net Total		**663**

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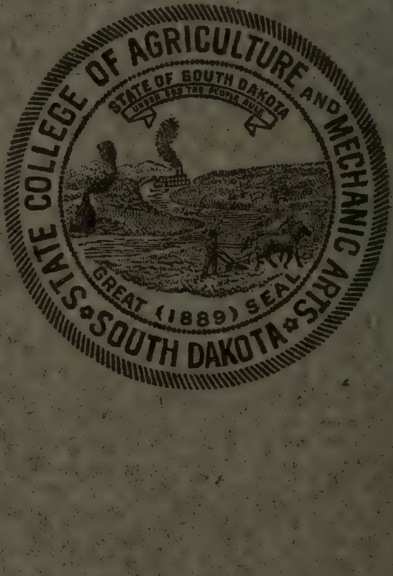
LOCATION

The State College of Agriculture and Mechanic Arts is located upon an eminence one mile from the business center of the city of Brookings, and four miles from the Big Sioux River. Brookings is situated on the Central Dakota Division of the Chicago and North-Western Railway, the Watertown branch of the same road making connection with the main line at this point. The city has a population of about three thousand five hundred thrifty, intelligent and hospitable people. It is lighted by electricity and has a complete water and sewer system, owned by the municipality.

The streets are lined with trees and there are very few houses without well kept lawns, upon which are growing trees, beautiful flowering shrubs and plants. It is often called the City of Homes.

It is a city of clean morals. No saloon has been allowed within its limits for several years. In the general election of 1896 Brookings County was the banner county of the state in its vote against allowing intoxicating liquors to be sold in the state. In the spring election of 1898 the proposition to allow saloons within the city limits was defeated by a vote of three to one.



STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS
SOUTH DAKOTA
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1912/13

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South Dakota State College of Agriculture and Mechanic Arts Bulletin

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Annual Catalog

1912-1913

Published Quarterly by
THE SOUTH DAKOTA STATE COLLEGE
Brookings, S. D.

Entered as second-class matter August 10, 1908, at the postoffice at Brookings, S. D., under Act of July 16, 1904

THE COLLEGE BULLETIN

The South Dakota State College Bulletin is published quarterly by authority of the Regents of Education.

The Bulletin contains information in detail relative to the entrance requirements of the different courses of instruction, the schedules of study, lists of instructors of the institution and its administration, equipment, organizations, publications, funds, students' expenses, scholarships, prizes, etc.

The institution includes the following college departments: Animal Husbandry, Dairy Husbandry, Agronomy, Horticulture and Forestry, Veterinary Medicine, Home Economics and Domestic Art, Mechanical, Electrical and Civil Engineering, English, Modern Languages, History and Political Science, Philosophy, Mathematics and Astronomy, Physics, Botany, Entomology and Nature Study, Zoology, Chemistry, Pharmacy, Music, Art, Military Science and Tactics, and Commercial Science.

There are also the Preparatory Department, the Agricultural Experiment Station and the School of Agriculture.

Additional short specials courses of instruction are given in Agriculture, Dairying, Home Economics and Steam Engineering. Correspondence courses are also being arranged in Agriculture, Nature Study and Home Economics. Bulletins are sent free, postage paid, on request. The request should indicate the department concerning which information is desired.

Address: The President, State College, Brookings, South Dakota.

Vol. V April, 1913 No. IV

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Statement of the Ownership, Management, Circulation, Etc.

of South Dakota State College of Agriculture and Mechanic Arts Bulletin published quarterly at Brookings, South Dakota, required by the Act of August 24, 1912.

Name of	Post Office Address.
Editor, Robert L. Slagle (President of College)	Brookings, South Dakota
Publisher, South Dakota State College of Agriculture and Mechanic Arts	Brookings, South Dakota
Owners, South Dakota State College of Agriculture and Mechanic Arts	Brookings, South Dakota

known bondholders, mortgagees, and other security holders, holding 1 per cent. or more of total amount of bonds, mortgages, or other securities: None.

ROBERT L. SLAGLE,
President of College.

Sworn to and subscribed before me this 10th day of March, 1913.

R. A. LARSON,
Notary Public.

(Seal.)

(My commission expires June 17, 1913.)

Calendar of 1913-1914

FIRST SEMESTER.

1913.

September 18-19-20—Entrance examinations and registration.

September 22—Work of first semester begins at 8 o'clock a. m.

November 1—Last day for announcing subjects of theses.

November 3—School of Agriculture opens.

November 27-28—Thanksgiving recess.

December 18—Christmas vacation begins at 4:15 p. m.

1914.

January 6—Christmas vacation ends at 8:00 a. m.

January 26-30—Examination week.

SECOND SEMESTER.

February 3—Second semester begins at 8:00 a. m.

March 26—School of Agriculture closes.

March 26-31, inclusive—Spring vacation.

May 25—Senior vacation begins.

June 1-5—Examination week.

June 7—Baccalaureate Sunday.

June 10—Commencement exercises at 10:30 a. m.

Calendar of Short Courses

January 6-June 5—Course in traction engineering.

January 6-March 26—Three months' creamery course.

January 6-March 26—Three months' course in home economics.

January 6-January 17—Two weeks' course in agriculture.

May 25-June 5—Automobile course.

Regents of Education

Hon. Albert M. Anderson	Sturgis
Hon. A. E. Hitchcock	Mitchell
Hon. T. W. Dwight	Sioux Falls
Hon. August Frieberg	Beresford
Hon. M. P. Beebe	Ipswich

Officers of the Board

Hon. A. E. Hitchcock	President
Hon. F. W. Ford	Secretary
Hon. A. W. Ewert (State Treasurer)	Treasurer

Regents' Committee for the College

Hon. T. W. Dwight	Hon. Albert M. Anderson

*Faculty

ROBERT LINCOLN SLAGLE, A. M., Ph. D., President.

A. B., Lafayette College, 1887; A. M., Lafayette College, 1890; Ph. D., Johns Hopkins University, 1894; Assistant to Professor W. O. Atwater in food investigation, Middletown, Connecticut, and New York City, 1894-1895; Professor of Chemistry, South Dakota Agricultural College, 1895-1897; President and Professor of Chemistry, South Dakota School of Mines, 1897-1905; present position since 1906.

JAMES HENRY SHEPARD, B. S., Professor of Chemistry.

B. S., University of Michigan, 1875; post-graduate student in University of Michigan, 1881-1882; Instructor in Natural Sciences, Ypsilanti, Michigan, High School, 1882-1886; present position since 1888.

HALVOR CHRISTIAN SOLBERG, M. E., Professor of Mechanical and Steam Engineering.

B. S., South Dakota Agricultural College, 1891; B. M. E., Purdue University, 1895; M. E., Purdue University, 1896; Professor of Practical Mechanics, South Dakota Agricultural College, 1891-1896; present position since 1896.

NIELS EBBESEN HANSEN, M. S., Professor of Horticulture and Forestry.

B. S., Iowa Agricultural College, 1887; M. S., Iowa Agricultural College, 1894; Commercial Iowa Nurseries, Atlantic and Des Moines, 1888-1891; Assistant Professor in Horticulture, Iowa Agricultural College, 1891-1895; studied in Europe, 1894; Agricultural Explorer for U. S. Department of Agriculture to Europe and Asia, 1897-1898, and 1906-1907; to Siberia, Turkestan and Algiers, 1908-1909; present position since 1895.

HUBERT BERTON MATHEWS, M. S., Professor of Physics.

B. S., South Dakota Agricultural College, 1892; M. S., South Dakota Agricultural College, 1899; pursued special work at various times in the Universities of Michigan, Wisconsin and Nebraska; Superintendent of City Schools, Clark, S. D., 1892-1893; Assistant in Chemistry and Physics, South Dakota Agricultural College, 1896-1899; Professor of Physics and Electrical Engineering, 1899-1909; Vice-President, 1904-1906; present position since 1909.

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*With the exception of the president, the names occur in the order of appointment.

BOWER THOMAS WHITEHEAD, M. S., Ph. C., Professor of Pharmacy.

Ph. G., South Dakota Agricultural College, 1895; Ph. C., Northwestern University, 1896; B. S., South Dakota Agricultural College, 1897; M. S., South Dakota Agricultural College, 1901; Instructor in Pharmacy, South Dakota Agricultural College, 1895; present position since 1896.

GEORGE LINCOLN BROWN, Ph. D., Professor of Mathematics and Dean of the Faculty.

B. S., University of Missouri, 1892; Teaching Fellow in Mathematics, 1892-1893; M. S., 1893; Fellow in Mathematics, University of Chicago, 1894-1896; Ph. D., University of Chicago, 1900; Professor of Mathematics, South Dakota Agricultural College, 1897-1910; Acting President South Dakota State College, summer and fall of 1908; present position since 1910.

EDWARD LOCKHART MOORE, B. S., D. V. S., Professor of Veterinary Medicine.

B. S., Cornell University, 1896; D. V. S., Columbian University, 1898; present position since 1898.

ADA BERTHA CALDWELL, Professor of Industrial Art; Preceptress.

Student Art Institute of Chicago, 1893-1897; Instructor in Art, Yankton College, 1897-1899; Professor of Industrial Art, South Dakota Agricultural College, 1899-1907; student Teachers' College, N. Y., and Chase School of Art, N. Y., 1903-1904; student Summer Course Handicraft Guild, Minneapolis, 1905, 1906 and 1907; student Commonwealth Art School, Maine, during summer, 1910; present position since 1907.

ROBERT BLACKWOOD FORSEE, Pe. P., Principal of Preparatory Department.

Principal of Pedagogy, Western College, Missouri, 1888; Principal of Schools at Elgin, Mo., 1889-1891; at Steffenville, 1892-1893; at Estelline, South Dakota, 1895-1896; County Superintendent Hamlin County, South Dakota, Schools, 1896-1900; present position since 1901.

ALBERT SPENCER HARDING, A. M., Professor of History and Political Science.

B. S., South Dakota Agricultural College, 1892; Fellow in American History, University of Nebraska, 1896-1897; A. M., University of Nebraska, 1897; Assistant in History and Civics, South Dakota Agricultural College, 1897-1900; student University of Wisconsin, 1898, and summer session, 1907; Instructor in American History, University of Nebraska, Summer Session, 1909; present position since 1901.

JAMES WILBUR WILSON, M. S. A., Director of the Experiment Station and Professor of Animal Husbandry.

B. S. A., Iowa Agricultural College, 1896; M. S. A., Iowa Agricultural College, 1898; Assistant in Agriculture, Iowa Agricultural College, 1896-1897; Private Secretary to Secretary of Agriculture, 1897-1900; present position since 1902.

WILLIAM HOWARD POWERS, A. B., M. A., Librarian and Associate Professor of English.

A. B., Miami University, 1891; A. M., Harvard University, 1899; student in the Graduate School, Harvard, 1899-1901; Instructor in Mathematics, Ohio Normal University, 1888-1889; Master of the High School, Marwich, Massachusetts, 1892-1895; Head of the Department of English, High School, Pawtucket, Rhode Island, 1895-1898; Professor of English, Huron College, 1901-1905; present position since 1905.

***HOMER MUNRO DERR, A. M., Ph. D., Professor of Civil Engineering.**

A. B., Leland Stanford University, 1898; A. M., Columbia University, 1901; Ph. D., University of Pennsylvania, 1903; elected Scholar in Physics, Clark University, 1899, and Scholar in Geology, Columbia University, same year; Assistant in Physics, Columbia University, 1899-1901; Instructor in Mining Engineering and Geology, University of Wyoming, 1901-1902; Tyndall Fellow, University of Pennsylvania, 1902-1903; Superintendent of Mines and in charge of dam construction for hydraulic mining, Colombia, South America, 1903-1904; Professor of Mathematics and Civil Engineering, Clarkson School of Technology, 1904-1906; Engineer with South Dakota Railroad Commission, 1908-1910; Assoc. M. Am. Soc. C. E.; present position since 1907.

ARTHUR A. BRIGHAM, Ph. D., Principal of the School of Agriculture; Director of Summer School.

B. S., Massachusetts Agricultural College, 1878; Professor of Agriculture, Imperial College of Agriculture, Sapporo, Japan, 1888-1893; Ph. D., University of Goettingen, Germany, 1896; Professor of Agriculture, College of Agriculture and Mechanic Arts, Rhode Island, 1896-1901; Director Agricultural Experiment Station. Rhode Island, 1897-1901; Experimenting in Incubation, Ithaca, N. Y., 1901-1902; Director Columbia School of Poultry Culture, 1903-1904; Lecturer, University of Nebraska, 1905-1906; present position since 1907.

CHRISTIAN LARSEN, M. S. A., Professor of Dairy Husbandry.

B. S. A., Iowa State College, 1902; M. S. A., Iowa State College, 1904; studied European dairying, 1900; Dairy Instructor, Massachusetts Agricultural College, 1901; Assistant and Associate Professor of Dairying, Iowa State College, 1902-1906; Professor of Dairy Husbandry, Utah Agricultural College, 1907; present position since 1907.

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*Resigned April 1, 1913.

MADISON CLAIR BATES, A. M., Professor of English.

A. B., Williams College, 1904; A. M., Williams College, 1905; A. M., Harvard University, 1906; Instructor in English, University of Illinois, 1906-1907; Scholar in English, Graduate School, Columbia University, 1909-1910; present position since 1907.

***JOSEPH NEWTON RODEHEAVER, A. M., Ph. D., Professor of Philosophy and Education.**

B. S., Ohio Wesleyan University, 1901; A. M., Ohio Wesleyan University, 1902; Instructor in Philosophy and English, Ohio Wesleyan University, 1901-1903; Fellow in Psychology, Clark University, Worcester, Massachusetts, 1903-1904; student in Philosophy, Graduate School, Boston University, 1904-1905; Acting Professor of English and Logic, Middlebury, Vermont, College, 1905-1906; Instructor in Logic, School of Expression, Boston, 1906-1907; Ph. D., Boston University, 1907; Instructor in Psychology and Public Speaking, Wabash College, 1907-1908; present position since 1908.

BYRON BRIGGS BRACKETT, A. M., Ph. D., Professor of Electrical Engineering.

A. B., Syracuse University, 1890; A. M., Syracuse University, 1893; Certificate of Proficiency in Electrical Engineering, Johns Hopkins University, 1895; Ph. D., Johns Hopkins University, 1897; Teacher of Mathematics, Dickinson Seminary, Williamsport, Pa., 1890-1892; Teacher of Higher Mathematics and Mechanical Drawing, Collegiate Department of Adelphi Academy, Brooklyn, N. Y., 1892-1893; student-instructor, Electrical Engineering Department of Johns Hopkins University, 1894-1897; Instructor in Electrical Engineering, Union College, 1897-1898; Teacher of Physics, Eastern High School, Washington, D. C., 1898-1900; Instructor in Electrical Science, Rutgers College, 1901-1903; Professor of Physics and Electrical Engineering, Clarkson School of Technology, 1903-1908; Professor of Electrical Engineering, Clarkson School of Technology, 1908-1909; Inspector of Torpedo Cable for U. S. Army, summer of 1898; Electrical Engineer for Rowland Telegraphic Company, Baltimore, Md., 1900-1901; present position since 1909.

NOLA K. FROMME, B. S., Assistant Principal, School of Agriculture

B. S. in Domestic Science, Ohio State University, 1905; Instructor in Home Economics, South Dakota State College of Agriculture and Mechanic Arts, 1907-1909; present position since 1909.

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*On leave of absence during 1912-1913.

HARRY C. SEVERIN, B. A., M. A., Professor of Entomology and Nature Study.

B. A., University of Wisconsin, 1906; M. A., Ohio University, 1908; Fellow in Zoology and Entomology, Ohio State University, 1908-1909; Assistant to State Entomologist, Illinois, summer of 1909; present position since 1909.

ROBERTSON COOK, M. E., Professor of Experimental Engineering.

M. E., University of Minnesota, 1902; Assistant Instructor in Mechanical Engineering, University of Minnesota, 1903; engineer with Oliver Iron Mining Company, Duluth, Minnesota, 1904; Mechanical Engineer for the Western Lime and Cement Company, Milwaukee, Wisconsin, 1904-1908; Instructor in Mechanical and Steam Engineering, 1908-1910; present position since 1910.

SHIRLEY PUTNAM MILLER, B. S., M. A., Professor of Zoology.

B. S., South Dakota State College, 1903; M. A., University of Minnesota, 1905; student at Minnesota Sea-side Laboratory, Vancouver Island, 1902-1904; Instructor in Zoology, South Dakota State College, 1905-1908; student at the Anatomical-Biological Institute, Berlin, and the University of Munich, 1908-1910; investigator in Russian Zoological Laboratory, Villafranche, on the Mediterranean; present position since 1910.

GEORGE ARTHUR STARRING, A. B., Professor of Commercial Science.

A. B., Huron College, 1907; graduate Huron Business College; student Rochester Seminary, N. Y., 1907-1908; of University of Chicago, 1908-1909; Summer Quarter, University of Chicago, 1909; Instructor in Commerce and Economics, Sioux City High School, 1909-1910; present position since 1910.

MARY TOUGH, Professor of Home Economics.

Graduate Normal Domestic Science Department of Pratt Institute, 1898; Instructor in Domestic Science and Art in Chicago University School of Education, 1898-1901; Instructor in Normal Domestic Science Department in Pratt Institute, 1901-1910; present position since 1910.

***PHILIP B. PEYTON, First Lieutenant U. S. Army, Professor of Military Science and Tactics.**

B. S., Virginia Military Institute, 1901; Assistant Professor of Mathematics and Tactics, Virginia Military Institute, 1901-1903; Second Lieutenant U. S. A., 1904; Philippine Islands, 1905-1907; Professor of Military Science and Tactics, Drury College, Springfield, Missouri, 1909-1911; First Lieutenant, U. S. A., 1911; present position since 1911.

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*Transferred December 19, 1912

ALBERT NASH HUME, B. S. A., M. S., Ph. D., Professor of Agronomy.

B. S. A., Purdue University, 1900; M. S., Purdue University, 1902; Live Stock Husbandman, North Louisiana Experiment Station; Instructor in Agriculture, Wenona Agricultural Institute, 1903; Instructor, Associate, Assitant Professor of Crop Production, University of Illinois and Agricultural Experiment Station, 1904-1911; student Leipzig, Germany, winter semester, 1908-1909; student Goettingen, Germany, summer semester, 1909 to winter semester, 1910; Ph. D., Goettingen, December, 1910; present position since 1911.

JOSEPH GLADDEN HUTTON, S. B., M. S., Associate Professor of Agronomy.

Graduate of Indiana State Normal School, Terre Haute, 1899; S. B., University of Chicago, 1908; M. S., University of Illinois, 1910. Teacher in Indiana District Schools, 1891-1895; Assistant in Biological Laboratory, Indiana State Normal School, 1898-1899; Instructor in Physiology, Indiana State Normal School, 1899-1900; Curator's Assistant, Marine Biological Laboratory, Wood's Hole, Mass., Summer, 1901; Principal of Beardstown (Ill.) High School, 1901-1903; Superintendent of Schools, Beardstown (Ill.), 1903-1908; Instructor in Psychology, Indiana State Normal School, Summer, 1908; Assistant in Geology and Graduate Student in Botany, Geology, and Soils, University of Illinois, 1908-1911; Field Assistant, Illinois State Geological Survey, summer, 1909; present position since 1911.

LOLA M. CONDIT, Professor of Modern Languages.

Ph. B., University of Wooster, 1900; M. A., University of Wooster, 1907; Instructor in German and English, Salt Lake Collegiate Institute, 1900-1902; Instructor and Assistant Professor of German, Coe College, Cedar Rapids, Iowa, 1908-1911; student under Dr. Thiergen of Royal Cadet College, Dresden, Germany, and in Berlin, 1903; University of Chicago, Summer quarter, 1904; Universities of Berlin and Leipzig, 1906-1907; student under Professors of Alliance Francaise, Paris, Summer, 1911; present position since 1911.

GARNETT HEDGE, Mus. Bac., Professor of Music.

Graduated from Des Moines Musical College, Des Moines, Iowa, 1894; post-graduate in same institution, 1896; studied with Karleton Hackett, American Conservatory, Chicago, 1897-1898; taught in American Conservatory, sang with Castle Square Opera Co., and studied with Arthur Beresford, 1898-1899; taught at Heading College, Abingdon, Ill., 1899-1900; Supervisor of Public School Music Lead and Deadwood (S. D.) schools, 1900-1903; taught in Auditorium Bldg., Chicago, 1903-1910; traveled with Minneapolis Symphony Orchestra, 1908-09-10 and with Thomas Orchestra, February, 1910; studied summer

1909 with Madame Friedenburg, New York; Dean of Huron College School of Music, Huron, S. D., 1910-1912; present position since 1912.

BENJAMIN LEE THOMPSON, B. Sc., Associate Professor of Animal Husbandry.

B. Sc. in Agriculture, Ohio State University, 1908; Professor of Animal Husbandry and Dairying, Dunn County School of Agriculture, Menominee, Wis., 1908-1909; Instructor in Animal Husbandry, South Dakota State College, 1909-1912; present position since 1912.

B. A. DUNBAR, Associate Professor of Chemistry.

A. B., Ohio Wesleyan University, 1891; A. M., Ohio Wesleyan University, 1892; Instructor in Mathematics and Physics, Hillsboro Normal College, Hillsboro, Ohio, 1891-1893; Instructor in Physics, High School, Ironton, Ohio, 1893-1895; Supt. of Schools, Michigan, Wyoming, Minnesota and North Dakota, 1895-1910; student in Chemistry, University of Chicago, 1909-1910; Assistant Professor of Chemistry, South Dakota State College, 1911-1912; present position since 1912.

CHRISTY WILLIAM MICHEL, A. M., Professor of Botany.

A. B., Litt. B., Ohio Wesleyan University, 1904; A. M. Harvard University, 1912; elected Austin Scholar in Botany, Graduate School, Harvard University, 1911, and Scholar in Yale University, for the same year; received appointment as assistant in Botany, Harvard University, 1912, and Fellow in Botany in the University of Wisconsin; student, Harvard University, second semester of 1905-06 and the year of 1911-12, Ohio State University, 1908-09; Supt. of Schools, Mercer, Ohio, 1904-05; Prof. of Biology, Defiance College, 1906-1908 and 1909-1911; present position since 1912.

OSCAR FOLEY, First Lieutenant U. S. Cavalry, Professor of Military Science and Tactics.

Graduate U. S. Military Academy, West Point, N. Y., 1902; Philippine Islands, 1902-1903, and 1908-1909; present position since 1913.

Instructors and Assistants

HOWARD H. HOY, B. S., M. S., Instructor in Physics and Electrical Engineering.

B. S., South Dakota Agricultural College, 1896; M. S., South Dakota Agricultural College, 1903; pursued special work in electrical engineering in the Universities of Nebraska and Wisconsin; Instructor in Mechanical and Electrical Engineering, South Dakota Agricultural College, 1899-1904; present position since 1904.

MAUD GODDARD, Instructor in Industrial Art.

Student Art Institute, Chicago, 1903; student Summer Course. School of Fine Arts, Minneapolis, 1907; student Chautauqua Summer School, N. Y., 1909; student Commonwealth Art School, Maine, Summer of 1910; present position since 1903.

CARL CHRISTENSEN, Instructor in Violin and Other Instruments.

Student under Professor Christian Madsen, of Copenhagen, Denmark; also studied with C. F. Toenniges, of Davenport, Iowa, 1900-1901; with Alfred Speil, Minneapolis, 1908-1909; and with William McPhail, Minneapolis, Summer of 1912; present position since 1906.

GERTRUDE S. YOUNG, A. B., Instructor in Preparatory Department.

A. B., University of Wisconsin, 1906; present position since 1907.

AMY KELLY, B. S., Instructor in School of Agriculture.

B. S., South Dakota State College, 1908; graduate student, Illinois University, 1908-1909; Dietitian at Passarant Hospital, Jacksonville, Ill., June to November, 1909; present position since 1909.

***JOHNSON SARVIS, B. S., M. S., Instructor in Botany.**

B. S., South Dakota State College, 1909; M. S., 1911; present position since 1909.

DEXTER E. BAILEY, Assistant in Dairy Husbandry.

B. S., Massachusetts Agricultural College, 1910; present position since July, 1910.

JOHN A. BONELL, Instructor in Shopwork.

Student Stout Institute, 1904, and State Normal School, Oshkosh, Wis., Summer 1905; Assistant and Instructor in Farm Mechanics, Marathon County School of Agriculture, Wausau, Wis., 1905-1910; attended Stout Institute, Summer 1910; present position since 1910.

HOWARD LOOMIS, A. B., Assistant in Agronomy.

A. B., Albion College, 1909; Instructor Chemistry and Physics, Union City, Ind., High School, 1909-1910; present position since 1910.

GUY E. YOUNGBERG, B. S., M. S., Assistant in Chemistry.

B. S., 1906; Ph. G., 1908, and M. S., 1909, South Dakota State College; present position since 1910.

****ETHEL MAY CATHCART, Instructor in Voice.**

Graduate of Nebraska University School of Music, 1911; practical experience in teaching music, public and private; two seasons in concert work; present position since 1911.

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*Resigned April 1, 1913.

**Resigned December 15, 1912.

JAMES TEMPLE, Assistant in Physical Culture.

Trainer of football team, University of Minnesota, 1896; athletic trainer, University of Wisconsin and Chicago Athletic Club, 1897-1900; trainer of spring track work and base-ball, S. D. S. C., 1901-1904; football trainer, U. S. Military Academy, West Point, N. Y., 1904-1911; in charge of all outdoor athletics, U. S. Military Academy, West Point, 1910-1911; present position since 1911.

ADA B. ERWIN, B. S., Instructor in Home Economics.

B. S., South Dakota State College, 1909; student Teachers' College, Columbia University, New York, summer session, 1911; present position since September, 1911.

MANLEY CHAMPLIN, B. S., Assistant in Agronomy.

B. S., South Dakota State College, 1909; Special Agent, 1909, Scientific Assistant, 1910, Collaborator, 1911, United States Department of Agriculture; present position since July, 1911.

CHAS. F. SCHLATTER, B. S., Instructor in Commercial Science.

B. S., Southern Iowa Normal, 1902; Instructor in Mathematics, Southern Iowa Normal, 1904-1905; Instructor in Pedagogy, Southern Iowa Normal, summer quarter, 1905; graduate Gem City Business College, 1906; student Drake University, summer quarters, 1909 and 1910; Superintendent of Schools, Dunlap, Illinois, 1906-1907, 1907-1908, and 1908-1909; Instructor in Commerce, Sioux City High School, 1909-1910; Principal Department of Commerce, La Salle-Peru Township High School, La Salle, Illinois, 1910-1911; present position since 1911.

WILLIS WARREN HARRIMAN, Ph. B., Instructor in Public Speaking.

Student, Worcester School of Elocution, Oratory and Delsarte, 1893-1898; Ph. B., Brown University, 1903; private pupil of Professor Thomas Crosby, 1900-1903; student Colonial College of Elocution, Oratory and Dramatic Art, Boston, 1904-1905; private pupil in Dramatic Interpretation of Mrs. Rachel Noah France, formerly connected with Booth and Barrett; director of the Worcester Studio of Dramatic Art, 1905-1911; special student under Dr. A. C. Getchell, chief throat and lung specialist, Worcester Hospital, 1911; post-graduate work, National Conservatory of Elocution, Oratory and Dramatic Art, New York City, 1911-1912; Lyceum work, 1893-1912; present position since 1912.

W. ALBERT PETERSON, Mus. Bac., Assisant Professor of Music.

Qualified as teacher, Illinois Wesleyan Conservatory, 1901; graduate American Conservatory, Chicago, 1909; post-graduate same instiution, 1911; pupil of Allen Spencer, pianist, and Adolf Weidig and Geo. Colburn, harmony, counter-point, composition, etc.; Instructor, Huron College, Huron, S. D., 1911-1912; present position since 1912.

MARY B. ALLEN, Instructor in Music.

Studied at Cedar Valley Seminary, Osage, Iowa; graduated from Huron College School of Music, Huron, S. D., 1912; present position since 1912.

BEATRICE DONALDSON, Instructor in the Department of Commerce.

Present position since 1912.

IRWIN S. OAKLAND, B. S., Assistant in Agronomy.

B. S., South Dakota State College, 1912; present position since 1912.

EDITH J. HUBBART, B. S., Assistant in the Library.

B. S., South Dakota State College, 1908; present position since 1912.

NELLIE G. KENDALL, B. S., Instructor in English.

B. S., South Dakota State College, 1908; present position since 1912.

HARRY W. EWING, Director of Athletics and Instructor in Mathematics.

Student University of Nebraska-Academic Courses 1904-1907; completed work necessary for LL. B. degree, University of Nebraska, 1910; Assistant Coach, University of Nebraska, 1910-1911; Director of Athletics, Morningside College, 1911-1912; present position since 1912.

HOWARD W. GREGORY, B. S., Assistant in Dairy Husbandry.

B. S. in Dairying, Oklahoma Agricultural and Mechanical College, 1912; present position since 1912.

JOHN M. FULLER, B. S., Instructor in Dairy Husbandry.

B. S. in Dairying, Iowa State College, 1911; Associate Editor, Orange-Judd Weeklies, 1911-1912; present position since 1912.

GEORGE B. ATWOOD, B. S., Assistant in Veterinary Medicine.

B. S., South Dakota State College, 1912; present position since 1912.

GEORGE PHILLIPS, B. S., Instructor in Traction Engineering.

B. S., South Dakota State College, 1909; present position since 1912.

GUY R. BISBEY, B. S., Assistant in Botany.

B. S., South Dakota State College, 1912; present position since 1912.

EVELYN CASPARI, Instructor in Music.

Graduated from American Conservatory, Chicago, 1912; pupil of Allen Spencer, pianist, and Geo. Colburn, harmony, etc.; present position since 1912.

Other Officers and Employees

R. A. Larson	Secretary
Winifred Van Husen	Registrar
Nina A. Waters	Matron of Dormitory
Mrs. J. W. Bashford	Adviser of Women

Edgar G. Johnson	Secretary to the President
M. M. Johnson	Station Stenographer
George E. Purdy	Janitor and Carpenter
A. T. Larson	Engineer
Fred C. Stoltenberg	Florist

Faculty Committees

Classification	Brown, Whitehead, Moore, Bates, Forsee, Cook
Deportment	Harding, Mathews, Powers, Wilson, Brown, Moore, Larsen
Absence and Tardiness (College)	Whitehead, Derr, Dunbar, Hutton, Michel
Absence and Tardiness (Prep.)	Forsee, Mathews, Schlatter
Athletics	Mathews, Ewing, Starring
Library	Powers, Hume, Brackett
Social Affairs	Miller, Peyton, Hansen, Miss Tough
Religious Affairs	Brackett, Miss Caldwell, Hume
Student Organizations and Publications	Miller, Bates, Harding
Electoral College, Students' Association	Harding, Severin, Hutton
Board of Control, Students' Association	Brown, Harriman, Starring

Members of Station Council

T. W. Dwight	Member Regents' Committee for the College
A. M. Anderson	Member Regents' Committee for the College
Robert L. Slagle	President of the College
James W. Wilson	Director and Animal Husbandman
Niels E. Hansen	Vice Director and Horticulturist
James H. Shepard	Chemist
Edward L. Moore	Veterinarian
Christian Larsen	Dairy Husbandman
Albert N. Hume	Agronomist

General Information

HISTORICAL SKETCH.

Establishment.—An act of the Territorial Legislature approved February 21, 1881, provided that "an Agricultural College for the Territory of Dakota be established at Brookings, * * * * * provided that a tract of land not less than eighty acres be secured and donated to the Territory of Dakota."

The legislature of 1883 provided for the erection of the first building. This building, now known as the Central Building, was opened for use September 24, 1884.

The Enabling Act admitting the state of South Dakota, approved February 22, 1889, provided that 120,000 acres of land be granted for the use and support of the agricultural college, as provided in the acts of congress making donations of lands for such purpose. The acts of congress here referred to are, primarily, the act of July 2, 1862, known as the Morrill Act, providing that 30,000 acres of public land for each representative in congress be given to each state towards "the endowment, support, and maintenance of at least one college, where the leading object shall be, without excluding scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts."

By the Enabling Act of 1889 Congress granted to South Dakota for the Agricultural College 40,000 additional acres, in lieu of a grant that had been made to new states in 1841. Thus the total land grant for the Agricultural College was 160,000 acres.

The Name.—In the Morrill Act of 1862, such colleges were spoken of as "Colleges of Agriculture and Mechanic Arts." In order that the name might more nearly conform to the object for which the College was established, the legislature of 1907 changed the name from "The Agricultural College of

South Dakota," to "The State College of Agriculture and Mechanic Arts."

Sources of Income.—A joint resolution passed by the legislature of 1890 accepted the lands granted in the enabling act. These lands were not at once assigned. The Commissioner of Public Lands reported that 64,658 acres had been selected. All have since been selected; very few have been sold. A small amount is received yearly as rental. The first income recorded was $1,197.71, Sept. 1, 1896. As no school lands may be sold for less than ten dollars an acre, these lands, when sold, will probably yield an endowment of two million dollars, the interest from which will probably be sufficient for the needs of the college.

The Morrill Act passed by Congress in 1890 provides a yearly appropriation for "the more complete endownment and support of colleges for the benefit of agriculture and mechanic arts." Under this act the College now receives from the general government the sum of $25,000 per annum.

An act making appropriation for the Department of Agriculture, approved by Congress March 4, 1907, provides for the further endowment and support of these colleges. The bill, which was introduced by Senator Knute Nelson of Minnesota, stipulates that the expenditure of the fund shall be governed in all respects by the provisions of the Morrill Act, and also that a portion of the money may be used to provide for the training of instructors in agriculture and mechanic arts. This act made an appropriation of $5,000 for the year 1907-1908, which increased $5,000 each year until it reached $25,000 per annum.

The College also receives aid from the State, biennial appropriations being made by the legislature for maintenance and buildings. The legislature of 1911 appropriated $50,500 for maintenance during each of the next two years, and $104,000 for building purposes.

Experiment Station.—This department was organized under the Hatch Act of Congress which provided for the establishment of agricultural experiment stations in connection with agricultural colleges. These stations were established for the purpose of conducting experiments and research work in connection with all branches of the agricultural industries of the United States, due regard being paid to the varying conditions and needs of the respective states. It is also their object to aid in diffusing among the people useful and practical information on all subjects connected with agriculture.

The South Dakota Station conducts its investigations chiefly along the following lines: live stock, veterinary science, soils, field experiments, greenhouse work, trees and small fruits, and chemistry of plant growth and foods.

The Hatch Act provided that the experiment stations should each receive $15,000 annually from the National Government. This amount has been increased by the provisions of the Adams Act of 1906, so that the experiment station now receives $30,000 a year for maintenance.

LOCATION, BUILDINGS AND EQUIPMENT.

The Location.—The College is located upon an eminence one mile from the business center of Brookings, which has a population of about three thousand five hundred people. The city is situated on the Central Dakota Division of the Chicago and North-Western Railway, the Watertown branch making connection with the main line at this point.

Brookings is almost an ideal college town. It is lighted by electricity and has a complete water and sewer system. Its streets are lined with trees and its houses have well kept lawns abounding in ornamental shrubs and plants.

It is a city of clean morals. No saloon has been allowed within its limits for years; and the last few times when the question of allowing saloons within the city has been submitted to a vote of the people, it has been defeated by overwhelming majorities.

The College Buildings and Grounds.—The college campus upon and about which the college buildings are placed is beautifully located on an eminence within the corporate limits of Brookings. It is ornamented with choice and tasteful varieties of trees and shrubs and laid out with necessary walks and drives. Adjoining on the rear are the horticultural gardens, and to the north and northwest is the college farm.

The oldest building on the campus, called the Central Building, was erected in 1885. This and the other two old buildings, called the North Building and the Experiment Station Building during recent years, will in the future be given over to general class room and laboratory purposes.

The new Agricultural and Administration Building, which will be completed before the opening of the next college year, will provide executive offices, an auditorium, laboratories, class rooms and offices for the various agricultural departments.

The Physics—Engineering Building is occupied by the physics and the engineering departments with their various class rooms, laboratories and shops.

The Plant Breeding Building, together with the large Greenhouse, furnishes room for the work that is being conducted by the departments of botany and horticulture.

The Chemistry—Pharmacy Building, a two-story structure, is occupied by the class rooms and laboratories of those departments.

The Creamery is a two-story building which was almost doubled in size in 1911 by an addition which was made to meet the growing demands upon this department.

The Gymnasium is a two-story building that is used for athletic exercises and military drill during the season when such work cannot be carried on outdoors. In connection with the Gymnasium a tract of land near the campus has been fitted up for outdoor exercises and sports.

Wenona Hall, a splendid brick dormitory for young ladies, stands on a site just across the street from the campus.

The central heating and electric light plant occupies a brick structure in the rear of the campus. The buildings are all heated by steam and lighted by electricity generated in this plant.

Near the campus on the adjoining college farm are located the agricultural and the dairy barns, together with a number of smaller buildings which are devoted to agricultural purposes.

The Farm and Horticultural Gardens.—The college farm includes four hundred and sixty acres, about sixty acres of which are used by the Agricultural Experiment Station as an experimental farm. Here the field experiments with field crops, seed germination and soil preparation are conducted, and the students may witness and actually participate in this scientific work. The remainder of the farm is used as a model stock and dairy farm under the direction of the professor of animal husbandry. Practical work in experiments involving the best farming practices for this region are given the students.

The Horticultural Gardens comprise about fifty acres adjoining the campus. Here and in the Greenhouse a large amount of work in fruit propagation and plant experimentation is being carried on.

The Laboratories, Shops and Museums.—Well fitted laboratories and shops have been provided in all those departments where their use is made necessary by modern educational methods. The value of illustrative materials has been recognized, and numerous departments have made large collections or museums. The equipment of the various departments is described in connection with their work.

The Library and Reading Room.—The library, occupying rooms on the first floor of the Central Building, contains over 12,500 bound volumes and about 6,000 pamphlets. The institution is a repository for the government and contains a set of government publications dating from 1886. Many of the more valuable sets have been extended to an earlier date. Care has been exercised in the selection of books, in order that each department may have proper reference books at the disposal of the students. The books are arranged according to the Dewey system of classification and are completely catalogued in the card catalogue. The library also receives the cards from the government, cataloguing the bulletins of the experiment stations and the publications of the United States Department of Agriculture. The files of many standard scientific and literary periodicals are kept bound. The reading room is abundantly supplied with current periodicals and newspapers. The library is open nearly all the time, day and evening, and at the disposal of students for the purpose of study and reading. Someone is in charge at all times to give help and information to those using the library.

The Postal Facilities.—The College furnishes first-class postal facilities, the mail of the students being delivered in one of the buildings at convenient times during the day, making it unnecessary for them to walk to the city postoffice.

ORGANIZATION AND GOVERNMENT.

The Board of Regents.—By an act of the legislature approved March 10, 1897, provision was made for the appointment of the Regents of Education, who have charge of all of the educational institutions which are maintained either wholly or in part by the state. The terms of office of the regents are each six years, and expire at different times, so that the board is a continuous body. Appointments to the board are made by the Governor, with the approval of the senate, "of persons of probity and wisdom from among the best and best known citizens, residents of different portions of the state, none of whom shall reside in the counties in which any of the state educational institutions are located, who shall be designated as the Regents of Education."

Among the powers and duties of the regents as defined by law some important ones are, to employ members of the different faculties and other agents, to determine the proper number of teachers in said faculties, also their compensation and terms of employment, to establish departments, to settle upon courses of study, to determine the rules to be enacted for the government of students, to decide upon text books to be used, to fix tuition fees, to guard against unwise duplication of departments, to confer degrees, to control the Agricultural Experiment Station, and to promote education among the farmers by providing for institutes; in fact, to make all regulations as to the executive and instructional functions of the educational institutions of the state. The regents govern the College largely through a regents' committee.

The Faculty.—The faculty, consisting of the president and professors, all of whom are elected by the regents, determines in large part the general policy of the College. The professors are heads of the different departments of instruction which they represent and are responsible to the president, who is in charge of all matters of administration. The president, in turn, is responsible to the regents for the whole work of the institution. In order to aid the president in his executive duties, he appoints, at the beginning of each college year, certain faculty committees which take up such work as may be assigned them by the president and faculty, and thus greatly facilitate the transaction of business and economize the time of the faculty.

In the government of the College the faculty rely chiefly upon the sense of duty of the students. The student is expected to pursue his studies with diligence, to attend classes regularly and maintain good behavior at all times. Students are not only under the direct supervision of the faculty while on the campus, but are responsible for their conduct wherever they may be.

In order that the work of the College may be rendered as efficient as possible and all relations made harmonious, a set of regulations, chiefly governing matters of classification, has been adopted by the faculty. No set rules are expected to cover every condition that arises, and all students should recognize the importance of co-operation with the faculty in their efforts to make college life helpful to the student body as a whole.

STUDENT ACTIVITIES.

Faculty Control.—While the students are allowed wide latitude in carrying on affairs which vitally concern themselves, such as athletic, literary, musical, social and other activities, the faculty retains an advisory interest in all such matters, and has the right at any time to pass reasonable regulations for the welfare of the College.

The Student Association.—The athletic, debating and oratorical interests and the college paper, the Industrial Collegian, are under the control of the Student Association which governs these activities by means of a board of control, consisting of students and members of the faculty. This board is organized into the Athletic, the Collegian, and the Debating Councils, each of which directs the respective interests that come under it. A fee of three dollars a semester, or proportional sums for students whose work is arranged in terms shorter than the semester, is charged for membership, which admits the holder to all student exercises under the supervision of the association and pays for a subscription to the Collegian.

Athletics.—Under the auspices of the local organization and a number of college athletic associations of the state, all kinds of athletic sports are practiced and encouraged. The local representatives contest at the State Meet once a year for athletic honors. Students should understand, however, that their studies must receive the first consideration; and that the purpose of athletic exercises is to develop gentlemanly and ladylike qualities in those who participate in them.

Oratory and Debating.—Each year for a number of years representatives of the college have met students from other institutions in debating contests. The members of the local teams are chosen in a series of preliminary contests in which all are encouraged to take part. There has thus been aroused among the student body a large interest in this kind of work and a healthy rivalry to obtain places on the intercollegiate teams.

Credit for three hours work during one semester is given those who take part in an intercollegiate debate.

A representative of the college is sent each year to the inter-collegiate oratorical contest of the state. This student is selected by means of a local preliminary contest. In order that this contestant may fully represent the college, the faculty has imposed the requirement that those competing for this honor must be pursuing regular work for the Bachelor's degree.

The Student Publications.—The Industrial Collegian is a weekly paper published by the students of the College. It is intended to be a mirror of student life at this institution, and all phases of college activity have representatives on its staff of editors.

The Jack Rabbit is published annually by the junior class, and is a good representative and exponent of college life.

The Literary Societies.—The literary society is an important factor in the education of the student and all are strongly advised to take part in this kind of work. All preparatory students are expected to become members of the Franklin Society whose work is carried on under the supervision of the preparatory department, and is a preparation for the college societies.

The faculty and various citizens, recognizing the value of literary society work, have offered several trophies to be competed for by the Athenian and Miltonian Societies, which are composed of students of collegiate standing.

The Christian Associations.—In the state schools the Young Men's and Young Women's Christian Associations occupy unique positions. They are the only organizations whose primary object is the moral development of the student body. Their platforms are broad enough to allow every student who stands for pure manhood and womanhood to affiliate himself or herself with them. The purpose of the associations is to present the value of Christian living to the student and to the state, and to create an atmosphere of good-fellowship among the members of the student body. The Young Men's Christian Association is personally supervised by a secretary who is engaged to spend a large part of his time in directing this work. The Young Women's Christian Association is supervised by the state and international college secretaries.

Other Student Organizations.—Among these may be mentioned the Art Club which encourages interest in art by bringing exhibits from a distance and by giving annually a costume party in which historic and literary characters are represented; the Glee Club, which makes an annual tour over the state; the Dramatic Club, which makes a study of some of the best dramatic literature, and presents a play each year; and the Agricultural Club, the Engineering Club, the Pharmacy Club and other organizations.

STUDENT EXPENSES.

Tuition and Other Fees.—The tuition for regular work extending throughout the college year is six dollars per semester, or twelve dollars per year. For information concerning tuition fees for work that is not arranged according to semesters, see the respective courses. A student who enrolls must pay the full tuition for the semester or term. A laboratory fee of two dollars per semester is charged for the use of each laboratory in which the student takes work. Books and other supplies are furnished by the student.

Special fees are charged for instruction in music in the College. (See the department of music.)

By action of the regents the tuition and incidental fees and laboratory fees, after having been paid, will in no case be refunded; but music, dormitory and other fees may be refunded at the discretion of the president of the College, if the student is called away before the end of the term or semester by unavoidable causes.

Estimate of Expenses.—An estimate of the yearly expenses of a student is as follows:

Board and Room	$180.00
Tuition	12.00
Fees in Student Association	6.00
Laboratory fees	10.00
Books and Supplies	25.00
Laundry Expenses	20.00
Incidentals	25.00
	$278.00

Men students are expected to purchase military uniforms which range in cost from $12.00 to $18.00.

While the above is considered as a reasonable estimate, many students go through the year on a less amount. Much depends upon the character of the student and the work he is taking.

Board and Rooms.—Good rooms and board can be obtained at private houses. A boarding club conducted in connection with the college furnishes board to the young men at a low cost, and the dormitory provides a large number of the young ladies with comfortable homes at reasonable rates. (See the following page for dormitory regulations.)

Every effort is made by the officers of the institution to secure suitable and satisfactory boarding places for students. A list of approved available places for boarding or rooming can be obtained at any time from the president of the College. The Christian Associations make it a point at all times to assist new students in finding proper living accommodations. If prospective students will write to the Young Men's or Young Women's Christian Association of the College, officers of these oragnizations will be glad to arrange to meet them at the train and help them to secure boarding and rooming places.

The Ladies' Dormitory.—This building is 120 by 50 feet in dimensions and three stories in height. In addition to the preceptress and other lady teachers, the matron and servants, it will provide a home for sixty women students.

Besides the general parlors and reception hall on the first floor, the second floor contains a general sitting room, while on the third floor is a recreation hall suitable for parties and plays which are attended by girls only. Two bath rooms, toilet rooms and lavatories are also on each floor. In addition, each room is provided with a large closet, and a stationary wash stand with hot and cold water.

Precautions have been taken to reduce danger from fire to a minimum. The building is heated by steam, lighted by electricity, and in every respect has the latest improvements and conveniences.

Each room is provided with two single cots or beds with mattress and pillow, two straight chairs, study table, dresser with mirror, rug and window shades. Bedding, towels and other articles must be provided by the students. Each girl should provide herself with mattress pad, two pairs of pillow cases, three sheets, two pairs of blankets, napkin ring, six towels and a clothes bag.

The basement is provided with a large dining room, kitchen, store rooms, laundry and rooms for the help. Here a boarding club is conducted under the supervision of an experienced matron. Every effort is made to provide wholesome fare at minimum cost to the students. The cost of table board during the last two years has been about $3.00 a week. Payment for board at the rate of $3.00 per week must be made for four weeks in advance, and at the end of the year any unexpended money will be returned to the students. No deduction for board will be made for less than a week's absence.

Occupants of the building will be entitled to the laundering of a limited number of articles without extra cost.

The cost of rooms in the hall varies from $12 on the third floor to $14 on the first floor per semester for each occupant, two in a room. This fee includes both light and heat. The room rent is payable in advance. The occupants will be expected to take care of their own room.

A student desiring room reserved for her must forward $2.00 with her application. This will apply on the regular room rent for the semester. In no case will this advance payment be refunded.

Student Labor.—There is a limited amount of paid labor about the institution which can be done by students and it is the policy of the College authorities to give as much work to deserving students as is consistent with the best interests of all. However, no one should expect to earn his entire expenses while at college and doing school work, or be assured of an income in advance from paid labor.

Scholarships.—The following article from the law, defining powers and duties of the regents of education, is self-explanatory: ''The Regents of Education shall fix all rates of tuition and other fees to be paid by students, but such rates must be the same in all different institutions. They may receive free of tuition two students appointed by each senator and one by each representative of the state legislature in any one of the institutions under their control, provided that the period for which appointment is made shall expire with the term of office of said senator or representative, and provided that such appointees shall comply with all the rules and requirements of the institution which they desire to enter. No student, however, shall receive any other gratuity whatever.'' The regents of education make this article operative in the case of this institution. The student must present his appointment to the secretary of the College at the time of enrollment in order to obtain credit for the same.

ENTRANCE REQUIREMENTS.

Admission.—While students are admitted at any time and assigned to such classes as they are found best fitted to enter, it is much better to commence at the beginning of the college year. No reduction in college fees is made when the student enters after the begining of the term, and if a student enters later he will not under any condition be allowed to hold a class back. If a tardy beginning is imperative the student must arrange with a tutor for assistance in bringing up his work, in order that he may go on understandingly and without hindrance to the class.

Candidates for admission to any department of the College must be at least fourteen years of age and of good moral character.

Credit in the College may be obtained by presenting certified grades from other institutions of reputable standing or through examination. The College reserves the right, however, to cancel grades accepted from other schools should the student be found deficient in the subject for which he has received credit.

The College will furnish prospective students with application blanks, which, after being filled out with certified standings and other data, should be returned to the registrar.

The first two days of the first semester are devoted to the registration of students. All students should complete their registration at this time and new students must present their credits at or before this time if they expect to be assigned a proper classification.

Entrance Credits.—Students will be admitted to the four-year courses, the two-year course in Home Economics and the two-year course in Pharmacy upon presenting credit for fifteen units of high school or other secondary school work. A unit is a subject which is taught five periods a week throughout the school year, or equivalent work, two hours of laboratory work being counted equivalent to one hour of recitation or lecture work.

Of the fifteen units required, eleven and one-half units are in prescribed subjects, the remaining three and one-half being in optional subjects as indicated below. A student who has graduated from a creditable high school course of four years will in general be enrolled as a member of the freshman class, but in case the prescribed subjects have not been completed, he may be required to bring up this back work.

A student may be admitted to a college class without having passed in one or two of his entrance studies. These shall stand against him and must be cleared up within one year after entrance or the student will be required to take the subjects with the regular classes.

For the benefit of students who are unable to attend a high school to complete the preparatory requirements, a preparatory course is maintained. Students will not be admitted to this department unless they present evidence that they have completed the work of the public schools as far as the ninth grade. For the preparatory course, see the Preparatory Department.

The list of prescribed and optional subjects are shown in the following table:

Prescribed Units.

English, four units. Not more than one year of this work should be the study of grammar; the remaining three years' work should consist of composition work and a study of some of the simpler American and English classics.

Algebra, one and a half units. The fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and the analysis and solutions of problems involving these principles.

Plane Geometry, one unit. The completion of this part of geometry. Special emphasis should be paid to the solutions of original problems and constructions.

Elementary Physics, one unit. One years' work covering the science as presented in the best text books. Laboratory work should accompany the text book work.

History, one and a half units. This work should follow, and not include, elementary United States History, and should be a connected study of some of the following lines; ancient, medieval, modern, English and American history.

Civics, one half unit. A study of the constitutions of the United States and of the state, as presented in the best high schools.

Foreign Language, two units. These credits should be for two years' work in some one of the languages, German, French or Latin. In case a student is a graduate of a four-year high school course which does not include any foreign language, credits in the natural sciences may be substituted for these two units.

Optional Units.

The three and one-half optional units may be offered in the same lines of work as the prescribed units and in other departments, as indicated by the table below. About the only requirement made concerning the work for which credit is offered is that it should be of a reasonably high standard. The maximum credit that is allowed in each subject is indicated in the table. While no minimum is stated it is expected that a student shall have covered a reasonable amount of a subject before being given any credit in it.

	Required Units	Maximum Counted
English	4	4
Algebra, thru quadratics	1½	1½
Plane Geometry	1	1
Elementary Physics	1	1
History, following elementary U. S. History	1½	3
Foreign Language, German, French or Latin	2	4
Civics	½	½
Science—		
Agriculture		1
Physiology, following Biology, Zoology or Botany		½
Botany		1
General Biology		1
Zoology		1
Geology		½
Physicial Geography		½
Bookkeeping		½
Commercial Geography		½
Freehand Drawing		½
Manual Training, including Mechanical Drawing		1
Cooking		½
Sewing		½
Solid Geometry		½

STUDIES.

The Credit Hour.—Credit for college work is counted in credit hours. A credit hour is one hour of class or lecture work requiring an additional hour and a half in preparation. Two hours in laboratory work is counted equivalent to one hour spent in the class room.

Registration.—In registering for work the student is advised by a member of the faculty who helps him to make out a consistent schedule of studies. In general, students are not allowed to classify in more than twenty nor less than fourteen credit hours a week. The faculty recognize that, because of differences in subjects and in the ability of students, some are able to carry a larger number of hours than others, and endeavor to assign to each student enough work to keep him reasonably busy without overloading him.

Special Students.—Students of mature years who have passed in the work of the preparatory department may be allowed to pursue special studies if not candidates for a degree, but they must satisfy the faculty that they are qualified to take up the studies desired.

Military Requirements.—The national law organizing and endowing these agricultural colleges requires that military science shall form part of the instruction offered. All male students taking regular work in the College are required to do certain work in this department, unless excused because of physical disability or some other grave reason. Certificates of disability should be obtained from the physician whom the College authorities have designated for such work, the College bearing the expense of the examination. For further regulations governing this work see the military department.

Grades.—All grades in college work are reported to the registrar in numbers on the scale of 100 as perfect. Grades are reported to students in classes as follows: Class "A" representing grades between 90 and 100; Class "B" from 80 to 90; Class "C" from 70 to 80. Class "F" is used for all grades below 70, and indicates that the student is so deficient in his work that he should repeat it with the regular class. Students having a term grade of "A" may not be required to take final examinations with their classes.

Conditioned Students.—Any student who without good reason has failed to receive a passing grade in a reasonable amount of his work will be registered only conditionally for further work. And if any student at any time is not carrying the work in which he is classified at a passing grade, or fails to perform other duties which may be expected of him, he may be placed upon the conditioned list and thus debarred from certain student privileges.

Absences.—Students are expected to attend regularly all the exercises of the classes to which they are assigned. When a student finds it necessary to be absent he should get an excuse in advance, if possible. Otherwise he should present an excuse to the committee having this matter in charge at the time and place they may designate. Excuses will be granted only when the absence seems necessary, and such penalties will be imposed upon students for unexcused absences as the faculty may deem proper. Should a student find it necessary to be late to his class he should make a satisfactory explanation to his instructor at the close of the period.

All work that is omitted because of absences must be made up as the instructor may direct.

DEGREES AND CERTIFICATES.

Degrees.—The courses of study leading to degrees given by the College are outlined on following pages and are as follows:

The two-year course in Pharmacy, leading to the degree of Pharmacy Graduate. For additional work of two years leading to the degree of Bachelor of Science, see schedule of Pharmacy Course.

The four-year course in Agriculture, in which the student may specialize along the lines of animal husbandry, dairy husbandry, agronomy, veterinary medicine, horticulture and plant pathology. Upon the completion of one of these schemes, under the direction of the head of the department in which the group of electives is chosen, the student will receive the degree of Bachelor of Science.

The four-year course in Home Economics leading to the degree of Bachelor of Science.

The four-year courses in Mechanical, Electrical and Civil Engineering, leading to the degree of Bachelor of Science, (B. S.). In order to meet a constantly increasing demand for better equipped and more thoroughly trained men along the several lines of engineering activities, an additional fifth year course of study is offered in the three engineering departments. Upon the completion of this additional year's work, the advanced degree, Mechanical Engineer, Electrical Engineer, or Civil Engineer, will be conferred. This work is nearly all prescribed and is a continuation of the work pursued in the undergraduate courses, and is intended more fully to equip the student with special training along the particular line of work which he desires to pursue after leaving college.

The four-year course in General Science, leading to the degree of Bachelor of Science. The work of this course is largely elective and is planned to give the student a liberal education, at the same time permitting specialization in the sciences.

The degree of Master of Science is offered to students who have received the Bachelor's degree either from this institution or from other institutions of equal rank, and who in addition have completed at least one full year's resident work, i. e., forty credit hours, in advanced study and have shown a reasonable proficiency in such work. At least two-thirds of this work must be in some one line of study, called the major work. The scheme of study presented by the student for the degree must be prescribed by the faculty committee on advanced degrees, who will outline the work in consultation with the head of the department in which the major work is taken.

It should be understood that the work for this degree cannot be subjected to rigid regulation, and that each case must be dealt with on its individual merits.

Special Courses.—The College also offers special courses in several important and practical lines of work. These are mentioned in other parts of the catalog under the proper headings, and are as follows:

The two-year course in Home Economics.
The four-year course in the School of Agriculture.
The one-year secretarial course.
The five-month course in steam engineering.
The three-month creamery course.
The three-month course in domestic science.
The special automobile course.

The special work in vocal and instrumental music.

The special work in art.

The two-week course of lectures on poultry husbandry, corn judging and stock judging.

Courses of Study.—The work leading to a Bachelor's degree and the degree of Pharmacy Graduate is mapped out on the following pages. The conditions for entrance to these courses may be found under "Entrance Requirements." The notation immediately after the name of a subject indicates its nature and the number of times it occurs a week, "a" referring to the class work, and "b" to the laboratory exercises. A department will not be required to give an elective unless at least five students are registered for the subject.

Course in Agriculture

FRESHMAN YEAR.

First Semester—

Rhetoric, a 3	English	9
Chemistry, a & b 5	Chemistry	1
Farm Crops, a 2 b 3	Agronomy	1
Stock Judging, a 2 b 2	Animal Husbandry	1
Military Tactics, 3		
Elective, a 4		
French, a 4	French	1
German, a 4	German	1

Second Semester—

Rhetoric, a 3	English	10
Chemistry, a & b 5	Chemistry	2
Farm Dairying, a 2 b 1	Dairy Husbandry	1
Breeds of Live Stock, a 3	Animal Husbandry	2
Elementary Anatomy, a 3	Veterinary	1
Military Tactics, 3		
Elective, a 4		
French, a 4	French	2
German, a 4	German	2

SOPHOMORE YEAR.

First Semester—

Botany, a 2 b 3	Botany	2
Quantitative Chemistry, b 5	Chemistry	3
Public Speaking, a 2	English	25
Entomology, a & b 2	Entomology	3

Horticulture, b 1	Horticulture
Military Tactics, 3	
Elective, a 4	
French, a 4	French
German, a 4	German

Second Semester—

Botany, a 2 b 3	Botany
Organic Chemistry, a & b 5	Chemistry
Military Science, a 1	Military Science
Entomology, a 1 b 1	Entomology
Horticulture, b 1	Horticulture
Public Speaking, a 1	English
Military Tactics, 3	
Elective, a 4	
Franch, a 4	French
German, a 4	German

Animal Husbandry Group—Agriculture Course

(For Freshman and Sophomore Years, See Above.)

JUNIOR YEAR.

First Semester—

General Zoology, a 2 b 3	Zoology
Soils, a & b 5	Agronomy
Market Types and Classes, a 3	Animal Husbandry
Dairy Factory Operation, a 2 b 2	Dairy Husbandry
Elective, a & b 3	

Second Semester—

General Zoology, and Veterinary Pysiology, a 2 b 3	Zoology
Soils, a & b 5	Agronomy
Principles of Animal Breeding, a 3	Animal Husbandry
Animal Nutrition, a 3	Animal Husbandry
Agricultural Chemistry, a 3	Chemistry

SENIOR YEAR.

First Semester—

Economics, a 3	History
Psychology, a 3	Philosophy
Advanced Stock Judging, a 2	Animal Husbandry
Stock Feeding, a 3	Animal Husbandry
Veterinary Medicine, a 5	Veterinary
Practical Publicity, a 2	Commerce

Second Semester—

Rural Economics, a 3	History
Live Stock Management, a 2	Animal Husbandry

Practical Publicity, a 2	Commerce	12
Architectural Drawing, b 3	Mechanical Engineering	6
Elective, a & b 10		

Dairy Husbandry Group—Agriculture Course

(For Freshman and Sophomore Years, See Above.)

JUNIOR YEAR.

First Semester—

General Zoology, a 2 b 3	Zoology	3
Soils, a & b 5	Agronomy	4
Inspection & Testing Dairy Products, a & b 4	Dairy Husbandry	2
General Bacteriology, a & b 5	Veterinary	6

Second Semester—

General Zoology,, a 2 b 3	Zoology	4
Dairy Bacteriology, a & b 2	Dairy Husbandry	3
Dairy Technology, a & b 5	Dairy Husbandry	7
Soils, a & b 5	Agronomy	5
Principles of Animal Breeding, a 3	Animal Husbandry	4

SENIOR YEAR.

First Semester—

Factory Operation (Creamery), a 3 b 2	Dairy Husbandry	4
Dairy Management, a 2 b 2	Dairy Husbandry	6
Economics, a 3	History	15
Psychology, a 3	Philosophy	3
Elective, a & b 5		

Second Semester—

Rural Economics, a 3	History	18
Factory Operation (Cheese), a 3 b 2	Dairy Husbandry	15
Elective, a & b 10		

Veterinary Group—Agriculture Course

(For Freshman and Sophomore Years, See Above.)

JUNIOR YEAR.

First Semester—

General Zoology, a 2 b 3	Zoology	3
Soils, a & b 5	Agronomy	4
Market Types and Classes, a 3	Animal Husbandry	8
Applied Bacteriology,, a & b 5, or	Veterinary	6
Histology, a & b 5	Zoology	8

Second Semester—

General Zoology and Veterinary Physiology, a 2 b 3	Zoology	4
Soils, a & b 5	Agronomy	5
Chemistry of Foods, a & b 5	Chemistry	4
Applied Bacteriology, a & b 5, or	Veterinary	7
Histology, a & b 5	Zoology	8

SENIOR YEAR.

First Semester—

Economics, a 3	History	15
Psychology, a 3	Philosophy	3
Veterinary Medicine, a & b 5, or	Veterinary	4
Veterinary Anatomy, a & b 5	Veterinary	2
Comparative Anatomy of Vertebrates, a & b 5	Zoology	11
Advanced Stock Judging, a 2	Animal Husbandry	3

Second Semester—

Rural Economics, a 3	History	18
Veterinary Medicine, a 5, or	Veterinary	5
Veterinary Anatomy, a & b 5	Veterinary	3
Comparative Anatomy, a 5	Zoology	12
Principles of Animal Breeding, a 3, or	Animal Husbandry	4
Heredity and Plant Breeding, a 2 b 1	Horticulture	7
Elective, a & b 3		

Agronomy Group—Agriculture Course

(For Freshman and Sophomore Years, See Above.)

JUNIOR YEAR.

First Semester—

General Zoology, a 2 b 3	Zoology	3
Soils, a & b 5	Agronomy	4
Elective, a & b 8		

Second Semester—

Farm Crops, a 3 b 2	Agronomy	4
General Zoology and Veterinary Physiology, a 2 b 3	Zoology	4
Soils, a & b 5	Agronomy	5
Elective, a & b 8		

SENIOR YEAR.

First Semester—

Economics, a 3	History	15
Psychology, a 3	Philosophy	3
Geology, a 3 b 2	Agronomy	9
Elective, a & b 8		

Second Semester—

Rural Economics, a 3	History	18
Heredity, a 2 b 1	Horticulture	7
Elective, a & b 12		

Horticulture and Plant Pathology Group— Agriculture Course

(For Freshman and Sophomore Years, See Above.)

JUNIOR YEAR.

First Semester—

General Zoology, a 2 b 3	Zoology	3
Soils, a & b 5	Agronomy	4
Mycology, a 2 b 3	Botany	5
Systematic Pomology, b 1	Horticulture	5
Architectural Drawing, b 3	Mechanical Engineering	6

Second Semester—

General Zoology and Veterinary Physiology, a 2 b 3	Zoology	4
Soils, a & b 5	Agronomy	5
Heredity and Plant Breeding, a 2 b 1	Horticulture	7
Plant Physiology, a 2 b 3	Botany	4
Floriculture and Market Gardening, b 2	Horticulture	3

SENIOR YEAR.

First Semester—

Economics, a 3	History	15
Psychology, a 3	Philosophy	3
Forestry, a 2	Horticulture	4
Elective, a & b 12		

Second Semester—

Rural Economics, a 3	History	18
Landscape Gardening, b 2	Horticulture	6
Elective, a & b 15		

Home Economics

FRESHMAN YEAR.

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	1
Principles of Cookery, a 2 b 3	Home Economics	3
Elective, a 4		
French, a 4	French	1
German, a 4	German	1

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	2
Physics of Heat, a 2	Physics	9
Textiles and Principles of Sewing, a 2 b 2	Home Economics	10
Elective, a 4		
French, a 4	French	2
German, a 4	German	2

SOPHOMORE YEAR.

First Semester—

English Literature, a 3	English	11
Household Chemistry, a & b 5	Chemistry	8
General Botany, a 2 b 3	Botany	1
Preparatory Dressmaking, a & b 3	Home Economics	11
Elective, a 4		
French, a 4	French	3
German, a 4	German	3

Second Semester—

English Literature, a 3	English	12
Chemistry of Foods and Nutrition, a & b 5	Chemistry	4
General Botany, a 2 b 3	Botany	2
Theory of Design, a 2	Art	3
Elective, a 4		
French, a 4	French	4
German, a 4	German	4

JUNIOR YEAR.

First Semester—

Home Nursing, a 3	Home Economics	7
History, Medieval, a 3	History	7
General Zoology & Physiology, a 2 b 3	Zoology	2
Bacteriology, a & b 5	Veterinary	6
Psychology, a 3	Philosophy	3

Second Semester—

Astronomy, a 3	Mathematics	15
History, Modern, a 3	History	8
General Zoology & Physiology, a 2 b 3	Zoology	3
Advanced Dressmaking, a & b 3	Home Economics	12
Serving and Dietetics, a 1 b 2	Home Economics	4
Ethics, a 3	Philosophy	4

SENIOR YEAR.

First Semester—

Economics, a 3	History	15
Art History, a 2	Art	6
Applied Design, b 2	Art	4

Sanitation, a 3	Home Economics	6
English Literature, a 3	English 13 or	15
The House and Market, a 3	Home Economics	8
Elective, a 3		
History of Education, a 3	Philosophy	5
Nature Study, a 3	Entomology	12

Second Semester—

English Literature, a 3	English 14 or	16
Sociology, a 3	History	16
Art History, a 2	Art	7
Applied Design, b 2	Art	5
Special Problems in Cookery, a 1 b 2	Home Economics	5
Elective, a & b 5		
Principles of Education, a 3	Philosophy	6
Ornithology (Bird Life), a & b 2	Entomology	12
Household Insects, a 2	Entomology	9

Mechanical Engineering

FRESHMAN YEAR.

First Semester—

Rhetoric, a 3	English	9
Solid Geometry, a 3	Mathematics	7
Plane Trigonometry, a 3	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Enginering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10
Advanced Algebra, a 5	Mathematics	8
Plane and Spherical Trigonometry, a 2	Mathematics	10
Elementary Chemistry, a & b 5	Chemistry	2
Machine Shop, b 3	Mechanical Engineering	3
Surveying, b 2	Civil Engineering	2
Military Tactics, 3		

SOPHOMORE YEAR.

First Semester—

Analytic Geometry, a 5	Mathematics	11
General Physics, a 3 b 2	Physics	3
French, a 4, or	French	1
English Literature, a 3	English	11
Machine Shop, b 5	Mechanical Engineering	4
Military Tactics, 3		

Second Semester—

Calculus, a 5	Mathematics	12
General Physics, a 3 b 2	Physics	4
French, a 4, or	French	2
English Literature, a 3	English	12
Descriptive Geometry, a 1 b 2	Mechanical Engineering	7
Machine Design, b 2	Mechanical Engineering	8
Elements of Military Science, a 1	Military	1
Military Tactics, 3		

JUNIOR YEAR.

First Semester—

Machine Design, b 4	Mechanical Engineering	9
Elements of Mechanism, a 3	Mechanical Engineering	16
Electricity and Magnetism, a 3 b 1	Electrical Engineering	1
Hydraulics, a 3	Civil Engineering	5
Analytic Mechanics and Calculus, a 5	Mathematics	13

Second Semester—

Analytic Mechanics, a 3	Mathematics	14
Steam Engines and Thermodynamics, a 5	Mechanical Engineering	12
Mechanics of Materials, a 5	Mechanical Engineering	16
Electrical Measurements, b 1	Electrical Engineering	2
Dynamo Electrical Machinery, a 3 b 2	Electrical Engineering	3

SENIOR YEAR.

First Semester—

Gas and Oil Engines, a 2	Mechanical Engineering	11
Experimental Engineering, b 3	Mechanical Engineering	17
Steam Boilers, a 2	Mechanical Engineering	13
Engineering Design, b 5	Mechanical Engineering	19
Stresses in Roofs and Bridges, a 3	Mechanical Engineering	15
Economics, a 3	History	15

Second Semester—

Experimental Engineering, b 5	Mechanical Engineering	18
Structural Design, b 5	Mechanical Engineering	20
Contracts and Specifications, a 2	Civil Engineering	11
General Astronomy, a 3	Mathematics	15
Masonry and Foundations, a 2	Mechanical Engineering	25

Fifth Year Subjects in Mechanical Engineering

First Semester—

Alternating Currents , a 3 b 2	Electrical Engineering	4
Structural Design, b 3	Mechanical Engineering	21
Statics, a 2	Mechanical Engineering	24

Thesis, a 2	Mechanical Engineering	27
Elective, 5		

Second Semester—

Kinematics, b 2	Mechanical Engineering	14
Structural Engineering, b 2	Mechanical Engineering	22
Heating and Ventilation, a 2	Mechanical Engineering	25
Thesis, a & b 3	Mechanical Engineering	28
Railroad Engineering, a 1 b 2	Civil Engineering	12
Elective, 5		

Note—All Electives must be taken in the department.

Electrical Engineering

FRESHMAN YEAR.

First Semester—

Rhetoric, a 3	English	9
Solid Geometry, a 3	Mathematics	7
Plane Trigonometry, a 3	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Engineering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10
Advanced Algebra, a 5	Mathematics	8
Plane and Spherical Trigonometry, a 2	Mathematics	10
Elementary Chemistry, a & b 5	Chemistry	2
Machine Shop, b 3	Mechanical Engineering	3
Surveying, b 2	Civil Engineering	2
Military Tactics, 3		

SOPHOMORE YEAR.

First Semester—

Analytic Geometry, a 5	Mathematics	11
General Physics, a 3 b 2	Physics	3
French, a 4, or	French	1
English Literature, a 3	English	11
Machine shop, b 5	Mechanical Engineering	4
Military Tactics, 3		

Second Semester—

Calculus, a 5	Mathematics	12
General Physics, a 3 b 2	Physics	4
French, a 4, or	French	2
English Literature, a 3	English	12
Descriptive Geometry, a 1 b 2	Mechanical Engineering	7

Machine Design, b 2.................Mechanical Engineering 8
Elements of Military Science, a 1..................Military 1
Military Tactics, 3..................................

JUNIOR YEAR.

First Semester—

Electricity and Magnetism, a 3 b 2.....Electrical Engineering 1
Machine Design, b 4................Mechanical Engineering 9
Elements of Mechanism, a 3.........Mechanical Engineering 10
Hydraulics, a 3..........................Civil Engineering 5
Analytic Mechanics and Calculus, a 5...........Mathematics 13

Second Semester—

Analytic Mechanics, a 3......................Mathematics 14
Electrical Measurements, b 1..........Electrical Engineering 2
Dynamo Electric Machinery, a 3 b 2......Electric Engineering 3
Steam Engines and Thermodynamics, a 5..Mechanical Engineering 12
Mechanics of Materials, a 5.........Mechanical Engineering 16

SENIOR YEAR.

First Semester—

Alternating Currents, a 3 b 2..........Electrical Engineering 4
Dynamo Design, b 3..................Electrical Engineering 5
Gas and Oil Engines, a 2.............Mechanical Enginering 11
Steam Boilers, a 2..................Mechanical Engineering 13
Experimental Engineering, b 3.......Mechanical Engineering 17
Economics, a 3....................................History 15

Second Semester—

Electric Light and Power Distribution, a 3 b 2...Electrical Engineering 6
Experimental Engineering, b 5.......Mechanical Engineering 18
Contracts and Specifications, a 2...........Civil Engineering 11
General Astronomy, a 3......................Mathematics 15
Masonry and Foundations, a 2.......Mechanical Engineering 25

Fifth Year Subjects in Electrical Engineering

First Semester—

Polyphase Currents, a 3 b 2...........Electrical Engineering 7
Electrical Design, b 3.................Electrical Engineering 8
Thesis, a or b 2......................Electrical Engineering 11
Stresses in Roofs and Bridges, a 3...Mechanical Engineering 15
Elective, 5..

Second Semester—

Designs of Power Stations, a 2 b 3.....Electrical Engineering 9
Long Distance Transmission, a 2......Electrical Engineering 10

Thesis, a or b 3	Electrical Engineering	12
Railroad Engineering, a 1 b 2	Civil Engineering	12
Elective, 5		

Note—Electives must be taken in the department.

Special electives in Electrical Engineering subjects will be offered in the senior and fifth years.

Civil Engineering

FRESHMAN YEAR.

First Semester—

Rhetoric, a 3	English	9
Solid Geometry, a 3	Mathematics	7
Plane Trigonometry, a 3	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Engineering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10
Advanced Algebra, a 5	Mathematics	8
Plane and Spherical Trigonometry, a 2	Mathematics	10
Elementary Chemistry, a & b 5	Chemistry	2
Surveying, a & b 5	Civil Engineering	1
Military Tactics, 3		

SOPHOMORE YEAR.

First Semester—

Analytic Geometry	Mathematics	11
General Physics, a 3 b 2	Physics	3
French, a 4, or	French	1
English Literature, a 3	English	11
Surveying, a & b 5	Civil Engineering	3
Military Tactics, 3		

Second Semester—

Descriptive Geometry, a 1 b 2	Mechanical Engineering	7
Calculus, a 5	Mathematics	12
General Physics, a 3 b 2	Physics	4
French, a 4, or	French	2
English Literature, a 3	English	12
Topographical Surveying, a & b 2	Civil Engineering	4
Elements of Military Science, a 1	Military	1
Military Tactics, 3		

JUNIOR YEAR.

First Semester—

Analytic Mechanics and Calculus, a 5	Mathematics	13

Electricity and Magnetism, a 3 b 2	Electrical Engineering	1
Machine Design, b 4	Mechanical Engineering	9
Elements of Mechanism, a 3	Mechanical Engineering	10
Hydraulics, a 3	Civil Engineering	5

Second Semester—

Analytic Mechanics, a 3	Mathematics	14
Steam Engines and Thermodynamics, a 5	Mechanical Engineering	12
Mechanics of Materials, a 5	Mechanical Engineering	16
Geodesy, a 3	Civil Engineering	16
Water Supply, a 2	Civil Engineering	7
Irrigation, a 2	Civil Engineering	8

SENIOR YEAR.

First Semester—

Economics, a 3	History	15
Geology, a 5	Agronomy	9
Steam Boilers, a 2	Mechanical Engineering	13
Stresses in Roofs and Bridges, a 3	Mechanical Engineering	15
Experimental Engineering, b 3	Mechanical Enginering	17
Sewerage, a 2	Civil Engineering	9
Roads and Pavements, a 2	Civil Engineering	10

Second Semester—

General Astoronomy, a 3	Mathematics	15
Experimental Engineering, b 5	Mechanical Engineering	18
Contracts and Specifications, a 2	Civil Engineering	11
Railroad Engineering, a 3	Civil Engineering	12
Dam and Reservoir Designs, b 2	Civil Engineering	13
Masonry and Foundations, a 2	Mechanical Engineering	25

Fifth Year Subjects in Civil Engineering

First Semester—

Gas and Oil Engines, a 2	Mechanical Engineering	11
Structural Design, a 3 b 2	Civil Engineering	14
Hydraulic Motors, a 3	Civil Engineering	16
Reinforced Concrete, a 3	Civil Engineering	17
Thesis, a 2	Civil Engineering	18
Elective, 3		

Second Semester—

Dynamo Electric Machinery, a 3 b 2	Electrical Engineering	3
Kinematics, b 2	Mechanical Engineering	14
Structural Design, b 3	Civil Engineering	15
Thesis, a & b 3	Civil Engineering	19
Elective, 5		

Note—Electives must be chosen in the department.

General Science

FRESHMAN YEAR.

First Semester—

Rhetoric, a 3	English	9
Elementary Logic, a 2	Philosophy	1
Elementary Chemistry, a & b 5	Chemistry	1
Military Tactics, 3		
Elective, 9		
French, a 4, or	French	1
German, a 4	German	1
Principles of Cookery, a 2 b 3	Home Economics	3
Solid Geometry, a 3, and	Mathematics	7
Plane Trigonometry, a 3	Mathematics	9

Second Semester—

Rhetoric, a 3	English	10
Elementary Logic, a 2	Philosophy	2
Elementary Chemistry, a & b 5	Chemistry	2
Military Tactics, 3		
Elective, 9		
French, a 4, or	French	2
German, a 4	German	2
Textiles, a 2, and	Home Economics	10
Principles of Sewing, b 3,or	Home Economics	11
College Algebra, a 5, or	Mathematics	8
Plane and Spherical Trigonometry, a 2, and	Mathematics	10
Surveying, b 2	Civil Engineering	2

SOPHOMORE YEAR.

First Semester—

English Literature, a 3	English	11
Public Speaking, a 3	English	23
Military Tactics, 3		
Elective, a & b 14		
French, a 4, or	French	3
German, a 4	German	3
And two of the following:		
General Botany, a 2 b 3	Botany	2
General Zoology, a 2 b 3	Zoology	3
Quantitative Chemistry, a & b 5	Chemistry	3
General Physics, a 3 b 2	Physics	3
Analytic Geometry, a 5	Mathematics	11

Second Semester—

English Prose Literature from Johnson to Morley, a 3	English	12
Public Speaking, a 2	English	24

Elements of Military Science, a 1	Military	1
Military Tactics, 3		
Elective, a & b 14		
French, a 4, or	French	4
German, a 4	German	4
And two of the following:		
General Botany, a 2 b 3	Botany	3
General Zoology, a 2 b 3	Zoology	4
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
General Physics, a 3 b 2	Physics	4
Calculus, a 5	Mathematics	12

JUNIOR YEAR.

First Semester—

English Literature, a 3	English	13 or 15
History, Medieval, a 3	History	7
Psychology, a 3	Philosophy	3
Elective, a & b 10		

Second Semester—

English Literature, a 3	English	14 or 16
History, Modern, a 3	History	8
Ethics, a 3	Philosophy	4
Elective, a & b 10		

SENIOR YEAR.

First Semester—

Economics, a 3	History	15
Geology, a 5	Agronomy	9
Elective, a & b 10		

Second Semester—

Sociology, a 3	History	16
General Astronomy, a 3	Mathematics	15
Elective, a & b 12		

Electives of Junior and Senior Years in General Science

First Semester—

Principles of Botany, a 2 b 3	Botany	1
General Botany, a 2 b 3	Botany	2
Plant Physiology, a 2 b 3	Botany	4
Cytology and Botanical Methods, a & b 5	Botany	8
Quantitative Chemistry, a & b 5	Chemistry	3
Agricultural and Sanitary Analysis, a & b 5	Chemistry	5
Industrial Chemistry, a 3	Chemistry	7

General Physics, a 3 b 2	Physics	3
Advanced Physics, a 4 b 1	Physics	5
Heat, a 3 b 1	Physics	7
Entomology, a 1 b 2	Entomology	3
Economic Entomology, a 1 b 1	Entomology	5
Systematic Entomology, b 2	Entomology	7
Insects and Disease, a 2	Entomology	10
Nature Study, a 3	Entomology	12
Animal Behavior, a 2	Entomology	13
Materia Medica, a 5	Pharmacy	2
General Zoology, a 2 b 3	Zoology	3
Comparative Anatomy of Vertebrates, a & b 5	Zoology	7
Histology, a & b 5	Zoology	9
Embryology, a & b 5	Zoology	11
Bacteriology, a & b 5	Veterinary	6
Analytic Geometry, a 5	Mathematics	11
Analytic Mechanics, a 5	Mathematics	13
French, a 3	French	5
German, a 3	German	5
English Literature from 1798 to 1832, a 3	English	13
English Literature, a 3	English	15
The English Novel, a 3	English	17
Biblical History and Literature, a 2	English	19
Argumentation, a 3	English	21
American History (1783-1829), a 3	History	9
History of the West, a 3	History	19
American Government, a 3	History	13
History of Education, a 3	Philosophy	5
Social Psychology, a 2	History	17
Chemical Toxicology, b 5	Pharmacy	11
Organic Chemistry, a 3 b 2	Chemistry	9
Dramatic Interpretation, a 1	English	23
Theory and Practice of Design, a & b 2	Art	4
Art History, a 2	Art	6
Theory of Interpretation and Musical Forms, a 2	Music	6
History of Music, a 3	Music	7
Military Law, a 1	Military	2
Field Service Regulations & Military Field Engineering, a 1	Military	4
Practical Publicity, a 3	Commerce	11

Second Semester—

General Botany, a 2 b 3	Botany	3
Taxonomy, a & b 5	Botany	7
Cytology and Botanical Methods, a 1 b 4	Botany	9
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
Chemistry of Foods and Nutrition, a & b 5	Chemistry	4
Agricultural Chemistry, a 3	Chemistry	6

General Physics, a 3 b 2	Physics	4
Advanced Physics, a 4 b 1	Physics	6
Light, a 3 b 1	Physics	8
Entomology, a 1 b 1	Entomology	4
Economic Entomology, a 1 b 1	Entomology	6
Systematic Entomology, b 2	Entomology	8
Ormithology, a & b 2	Entomology	11
Materia Medica, a 5	Pharmacy	3
General Zoology, a 2 b 3	Zoology	3
Comparative Anatomy of Vertebrates, a & b 5	Zoology	8
Advanced Mycology, a & b 5	Botany	6
Animal Behavior, a 2	Entomology	13
Organic Chemistry, a 3 b 2	Chemistry	10
Dramatic Interpretation, a 1	English	23
Applied Bacteriology, a & b 5	Veterinary	7
Histology, a & b 5	Zoology	10
Embryology, a & b 5	Zoology	12
Heredity, a 2 b 1	Horticulture	7
Calculus, a 5	Mathematics	12
Analytic Mechanics, a 3	Mathematics	14
French, a 3	French	6
German, a 3	German	6
American History (1829-1865), a 3	History	10
Nineteenth Century History, a 2	History	12
Political Parties in the United States, a 3	History	14
History of the West, a 3	History	20
Principles of Education, a 3	Philosophy	6
Theory and Practice of Design, a & b 2	Art	5
Art History, a 2	Art	7
English Literature, from 1798 to 1832	English	14
English Drama	English	16
Biblical History and Literature, a 2	English	20
Argumentation, a 3	English	22
Theory of Interpretation and Musical Forms, a 2	Music	9
History of Music, a 3	Music	10
International Law, a 1	Military	3
Applied Tactics, a 1	Military	5
Business Affairs, a 2	Commerce	11
Practical Publicity, a 3	Commerce	12
Meteorology, a 2 b 1	Agronomy	10
Rural Economics, a 2	History	18

Two Year Course in Pharmacy

FIRST YEAR.

First Semester—

Elementary Chemistry, a & b 5	Chemistry	1
General Botany, a 2 b 3	Botany	2
Anatomical Methods, a 3 b 2	Zoology	5
Pharmacy Latin, a 5	Pharmacy	1

Second Semester—

Elementary Chemistry, a & b 5	Chemistry	2
General Botany, a 2 b 3	Botany	3
Anatomical Methods and Physiology, a 3 b 2	Zoology	6
Pharmacognosy, a & b 5	Botany	1

SECOND YEAR.

First Semester—

Materia Medica, a 5	Pharmacy	2
Pharmacy, a 5	Pharmacy	4
Quantitative Chemistry, a & b 5	Chemistry	3
Pharmacy Laboratory, b 3	Pharmacy	5
Pharmaceutical Arithmetic, a 2	Pharmacy	6

Second Semester—

Materia Medica, a 5	Pharmacy	3
Pharmacy, a 5	Pharmacy	7
Volumetric Analysis and Drug Assaying,, a & b 5	Pharmacy	9
Pharmacy Laboratory, b 5	Pharmacy	8

NOTE.—Students who have received the degree of Pharmacy Graduate may receive the degree of Bachelor of Science upon completing sufficient work in addition to the two-year course to make one hundred and fifty hours of credit.

Of the additional work the following courses are required:

Rhetoric	6 hours
Logic	4 hours
English Literature	6 hours
History	6 hours
Modern Language	16 hours
Trigonometry	2 hours,

and thirty hours elected in physics, chemistry, botany, toxicology, bacteriology, zoology, or histology.

Departments and Work

The Agricultural Experiment Station

JAMES W. WILSON, Director.

Under the provisions of the Hatch Act of March 2, 1887, and the Adams Act of March 20, 1906, the state now receives annually $30,000 from the treasury of the United States for the maintenance of an experiment station. By an act of the legislature this institution was made a part of the South Dakota Agricultural College. Its object is to investigate along agricultural lines, publish the results in bulletin form and distribute them to the residents of the state for their information and benefit. It consists of seven divisions, namely: agronomy, animal husbandry, dairy, horticulture, chemistry and veterinary.

Each of these divisions is in charge of an expert who is also professor of the same subject in the College.

About sixty acres of the college farm are set aside for experiments in crop rotation and testing varieties of grains.

Another sixty acres are utilized for experiments along horticultural lines, where trees, shrubs and vines are grown in profusion. Adaptation of grains, grasses, forage plants, fruits, trees, shrubs and vegetables for the Northwest is being carried on in co-operation with the United States Department of Agriculture and as a result many valuable varieties have been introduced which probably would not otherwise have reached us.

Each division is provided by the state with the proper facilities to conduct investigations, and at least four bulletins are published annually, which are free to residents of the state. Inquiries pertaining to the various agricultural interests are answered promptly. The regular bulletin mailing list of the station numbers over 19,000 names.

All communications to this department should be addressed to the Director.

Department of Animal Husbandry

PROFESSOR WILSON; ASSOCIATE PROFESSOR THOMPSON.

It is generally admitted that live-stock farming is the basis for an intensive agriculture and that it must be practiced as well as good farming if the fertility of the soil is to be maintained.

Work in this department gives the student a practical and scientific knowledge of animal husbandry as applied to South Dakota conditions. The College herds and flocks include representatives of eighteen of the leading breeds of domestic animals. These are all used for class and demonstration purposes. Men having completed this course are well equipped to manage live-stock farms and to judge at stock shows.

The following subjects are offered by this department:

1. **Stock Judging.**—Two recitation and two laboratory periods a week, first semester; required in the freshman year of the Agricultural Course. Study and practice in judging of horses, cattle, sheep and swine. Special attention is given to the use of score cards both for market and breeding animals.

Text: Craig's Judging Live Stock.

2. **Breeds of Live Stock.**—Three recitations a week second semester; required in the freshman year of the Agricultural Course. A study of the various breeds, their origin, development, characteristics and adaptability as to the use and locality; work accomplished by the noted breeders of the past and present day reviewed.

Text: Plumb's Types and Breeds of Farm Animals.

3. **Advanced Stock Judging.**—Two periods a week, first semester; required in the senior year of the animal husbandry and the veterinary groups, Agricultural Course; prerequisites, Animal Husbandry 1 and 2.

Particular attention is given to the placing of animals and the giving of reasons why they are so placed. This course includes the judging of market, breeding and show animals.

4. **Principles of Animal Breeding.**—Three recitations a week, second semester; required in the junior or senior year of the animal husbandry, the dairy husbandry and the veterinary groups, Agriculture Course; prerequisite, Animal Husbandry 2. This course deals with the laws that govern reproduction and the development of animals, and the different systems employed in producing both market and breeding animals; study of blood lines and pedigrees.

Text: Davenport's Principles of Breeding.

5. **Animal Nutrition.**—Three recitations a week, second semester; required in the junior year of the animal husbandry group, Agriculture

Course; prerequisite, Animal Husbandry 1 and 2, and Chemistry 2. This subject deals with the physical and chemical characteristics of the various feeding stuffs and their relation to practical feeding operations.

6. **Stock Feeding.**—Three recitations a week, first semester; required in senior year of the animal husbandry group, Agricultural Course; prerequisite, Animal Husbandry 5. A study of the feeding of the various classes of live stock, compounding of balanced rations, results of experimental and practical feeding investigations.

Text: Henry's Feeds and Feeding.

7.. **Live Stock Management.**—Two lectures a week, second semester; required in the senior year of the animal husbandry group of the Agriculture Course; prerequisite, Animal Husbandry 1, 2 and 6. This course will consist of lectures pertaining to the proper locations for live stock farms, the kind and arrangement of buildings, founding and management of herds and flocks, capital required, methods of selling, etc.

8. **Market Types and Classes.**—Three lectures a week, first semester; required in the animal husbandry and the veterinary groups, Agriculture Course; prerequisite, Animal Husbandry 1 and 2.

Attention is given to the consideration of live stock markets, to the different classes and grades of market animals, and the use that is made of the different classes when slaughtered.

Department of Dairy Husbandry

PROFESSOR LARSEN; MR. GREGORY; MR. FULLER.

This department offers two separate courses: (1) the Four-Year Agriculture Course, the last one and a half years of which are devoted chiefly to special dairy studies; (2) the Three-Month Dairy Course.

The first course has been outlined with a special view of fitting young men to become teachers and investigators of dairying in public schools, agricultural colleges and experiment stations, inspectors of creameries and dairy products in municipal, state and government service and superintendents of large creameries and dairy farms.

The second course is given with a view of training men to become successful operators of creameries, cheese factories, central plants and dairy farms.

The demand for good men properly trained along dairy lines is great. Compensation for dairy and creamery work is good. Worthy students can depend upon the co-operation of this department in securing suitable work.

The Dairy Husbandry Department operates on a commercial basis a well equipped creamery and cheese factory all the year around. It is a two-story brick building. The first floor is occupied with the various creamery machinery and cheese-making equipments. On the second floor, the research laboratory, milk inspection laboratory, class rooms and offices are located.

The dairy herd, consisting of representatives of the principal dairy breeds, which is kept in a separate dairy barn, affords excellent facilities for studying the various phases of milk production.

Experiments relating to feeding, breeding and care of dairy stock, and the manufacture of dairy products are in progress at all times. Students may have advantage of keeping in touch with these experiments, note manner of outlining and executing investigational work, and profit from results. Advanced worthy dairy students may arrange to assist in some of this work.

The following work is offered:

1. **Farm Dairying.**—Two lectures and one laboratory period a week, second semester; required in the freshman year of the four-year Agricultural Course, and with some modification during the first year of the School of Agriculture.

This subject comprises a study of the economic production, secretion and composition of milk; of the comparative economy in disposing of and utilizing milk for various purposes on the farm, of testing milk and its products for fat, acid and common adulterations; of the effects of germs and degree of purity on dairy products; of the separating and handling of milk and cream and the manufacture of butter and cheese on the farm.

2. **Inspection and Testing of Dairy Products.**—Four lectures and laboratory periods a week, first semester; required in the junior year of the dairy group, Agricultural Course.

Those taking this course should have had at least one term's work in chemistry. It embodies a thorough study of the Babcock test for fat, of the lactometer and its application, of the tests for determining the acidity of dairy products, of the various tests for moisture in butter, of the influence and detection of different preservatives and adulterations, and a study of the various pure dairy food standards.

3. **Dairy Bacteriology.**—One lecture and two laboratory periods a week, second semester; required in the senior year of the dairy group, Agricultural Course.

In this course are taught bacteriological principles as related to dairying, contamination of milk, fermentations of milk, and their control, relation of disease bacteria to milk, preservation of milk for commercial purposes, bacteria as related to the manufacture of butter, and bacteria as related to the manufacture of cheese. General bacteriology is a prerequisite study.

4. **Factory Operation (Creamery).**—Three lectures and two laboratory periods a week, first semester; required in the junior year of the Animal Husbandry and the Dairy Husbandry groups, Agricultural Course. Prerequisite, Dairy 2.

A thorough study of the receiving, sampling and separation of milk and cream, the preparation and use of starters, pasteurization and ripening of cream, principles of churning, washing, salting, working, packing and marketing butter. Attention will also be given to the organization, location, construction, drainage, cooling and ventilation of factories and creameries, the economic disposal of factory by-products and various methods of factory refrigeration.

5. **Factory Operation (Cheese).**—Three lectures and two laboratory periods a week, second semester; required in the junior year of the dairy group, Agricultural Course.

This course comprises a study of milk as applied to cheese-making, the manufacture of hard and soft cheese, including the principles involved in the setting, cutting, cooking, dipping, milling, salting, pressing, curing and marketing of cheese.

6. **Dairy Management.**—Two lectures and one laboratory period a week, first semester; required in the senior year of the dairy group, Agricultural Course.

The various methods of improving and upbuilding a dairy herd, and the advanced judging of dairy stock will be emphasized, methods of weighing, testing and recording feed consumed and milk produced by each cow will be outlined. The history and adaptability of various dairy breeds to different conditions and relation of dairy types to milk producing capacity will be studied. This course will also embody study of the extent to which dairy farming is practiced and under which conditions it is best applicable, of dairy farming as an adjunct to general farming and the arrangement and construction of dairy farm buildings, stalls, yards, etc.

7. **Dairy Technology.**—Two lectures and two laboratory periods a week, second semester; required in the junior year of the dairy group of the Agriculture Course; prerequisite, Chemistry 2 and Dairy 3.

This course treats of the ways in which milk and its products are utilized outside of the scope ordinarily embraced under dairying. It comprises such subjects as value of milk as a food, the preparation of certified, modified, standardized, fermented and condensed milk, the manufacture of casein, milk ivory, milk sugar, renovated butter and oleomargarine.

8. **Dairy Research.**—Second semester, senior year; elective in the junior or senior year. A study of various views held by different authorities on certain important dairy subjects, a digest of recent dairy work of the experiment stations, and of comparative dairying as practiced in leading countries. A reading knowledge of German is recommended.

9. **Dairy Practice, Elective.**—The college has a commercial creamery and cheese factory in operation every day during the year except Sunday. Students who specialize in dairying and need practical experience should make it a point to take this course. Arrangements can be made to do this practical work at almost any time during the year. Vacation time is recommended.

10. **Domestic Dairying.**—One lecture and one laboratory period a week; elective. This course includes lectures and laboratory work on such phases of dairying as will be of greatest interest and value to ladies and home life, such as properties of milk, the various uses of milk, and each of its component parts for the home as well as for commercial purposes, and the relation of germs to quality of dairy products and to consumers of dairy products. The detection of adulteration of milk and dairy products, the use of the Babcock test for fat, effects of different ferments on milk and dairy products, and the making of cheese and butter on the farm will be demonstrated in the college creamery laboratory.

Department of Veterinary Medicine

PROFESSOR MOORE; MR. ATWOOD.

This department occupies a separate two-story building with a hospital in connection. The operating room is equipped with all necessary supplies and instruments for ordinary surgical operations. Free clinics are held each Saturday forenoon at which students assist and perform operations under the direction of the instructor. The instruction offered is aimed to meet the requirements of the agricultural student as well as the special student in veterinary medicine. Increased requirements being demanded of matriculants by the veterinary colleges, the increasing demand for veterinarians who have had a general education in addition to their professional training emphasizes the desirability, and in many cases the necessity, of obtaining a baccalaureate degree before entering a veterinary college. The student who therefore anticipates entering the veterinary profession is strongly urged to complete one of the four-year courses before undertaking his professional training. For a suggested arrangement of studies see the veterinary group of the Agricultural Course.

The following work is offered:

1. **Elementary Anatomy.**—Three recitations a week, second semester; required in the freshman year of the Agriculture Course. This course is designed to introduce the student, early in his course of study, into those basic principles of anatomy underlying a considerable portion of his future studies, such as stock judging, physiology, feeding, etc. Conducted by the lecture method.

2-3. **Veterinary Anatomy.**—Five recitations and laboratory periods a week, first and second semesters; optional with veterinary medicine in the senior year of the veterinary group, Agriculture Course. Conducted by the laboratory method with frequent quizzes. Osteology and arthrology.

4-5. **Veterinary Medicine.**—Five recitations and laboratory periods a week, first and second semesters; required in the senior year of the Animal Hunsbandry group, optional with veterinary anatomy in the veterinary group, Agriculture Course. Lectures and Clinics.

6. **Bacteriology.**—Five recitations and laboratory periods a week, first semester; required in the junior year of the Home Economics Course and in the dairy group, Agriculture Course.

Applied Bacteriology.—Two recitations and three laboratory periods a week, second semester; elective. A continuation of the course in general bacteriology. Class conferences bi-weekly. In the laboratory a special study is made of the methods of air, water, sewage, soil and milk analysis, etc. Text, Marshall's Microbiology.

Veterinary Physiology.—Five recitations a week; required of students of agriculture during the last half of the second semester instead of human physiology. Text, Paton's Essentials of Physiology.

Agronomy Department

PROFESSOR HUME; ASSOCIATE PROFESSOR HUTTON;
MR. CHAMPLIN; MR. LOOMIS; MR. OAKLAND.

The Agronomy Department is the department of soils and crops. To help students apply the principles of science to crop production on the farms of South Dakota is the essential purpose of the courses offered.

What is soil in South Dakota, or on some farm within the state? The student may learn to outline soil areas, to analyze soils, to observe field experiments, and answer the question for himself.

What crops will grow on South Dakota soil areas, and how may the growing of them be made most profitable to the man who does the work? A study of the results of experiments will answer the questions for the student. It is attempted to give the student in agronomy that accurate knowledge of conditions which is necessary to success in farming.

The courses offered are fundamental, practical, scientific. They are designed for South Dakota farmers. They may be taken with profit by prospective teachers of agriculture, or experiment station workers.

1. **Farm Crops.**—Two recitations and three laboratory periods a week, first semester; required in the freshman year of the Agriculture Course. Grain judging and seed testing. Score-card judging of wheat, barley, oats, emmer, potatoes, corn and other crops. Weeds and weed seeds. Classification, harvesting, grading, cleaning, storage and care of crops. Open to all college students, without prerequisite.

2. **Farm Crops.**—Three recitation hours and two laboratory periods per week, second semester; required in the junior year of the agronomy group, Agriculture Course; prerequisite, Agronomy 1, or Botany 1, and one year of college work. Special crops adapted to South Dakota conditions; methods, cost and profit in production; practical and scientific arrangement of crop rotations with a view to better crops; the relation of the crops produced in South Dakota to the world supply. As much attention as possible is given to the improvement of crops by selection and breeding.

3. **Advanced Farm Crops.**—Elective in the junior or senior year; five to ten credits; prerequisite, Agronomy 2 and two years of college work. Special problems of advanced students. The advanced student may become interested in some particular line of investigation, as for instance, a problem in corn breeding, the effect of storing of seed of corn or other crops upon germination and growth, the effect of various methods of cultivation, and problems of crop improvement. Such work may imply a study of previous experiments, cropping experiments in green house or on the field. The student will submit a final report or thesis. Time and number of hours to be arranged with instructor in charge.

4. **Soil Physics and Management.**—Five lecture and laboratory periods a week, first semester; required in the junior year of the

Agriculture Course; prerequisites, Physics 1 and 2, Chemistry 1 and 2. This course deals with the origin and development of the soil under different climatic conditions; classification of soils upon several bases; texture, porosity, specific gravity, plasticity, capillarity, granulation of soils; the soil as a reservoir for water; the movement and control of soil water; irrigation and drainage; the alkali problem; aeration of the soil, its relation to soil texture and plant growth; soil temperature; the physical effect of manures upon the soil; soil erosion by wind and running water—blowing and washing—and their control; the practical application of the foregoing to methods of tillage; crop rotations and the application of green and farm manures in the management of different types of soil. The laboratory work includes a careful study of the physical properties of the soil through observation and practice; soils are also studied under field and greenhouse conditions.

5. **Soil Fertility.**—Five lecture and laboratory periods a week, second semester; required in the junior year of the Agriculture Course; prerequisite, Agronomy 1 and 4, and Chemistry 3. The relation of the fertility content of the soil to crop yields; effect of supplying various elements of fertility; effects of different rotations an systems of farming in relation to permanent agriculture; a study o a system of agriculture in relation to permanent agriculture; a stud of a system of agriculture adapted to South Dakota conditions. Th laboratory work includes the analysis of manures and fertilizers an the determination of their agricultural and commercial values; th analysis of various farm products; the analysis of a soil, preferabl from the student's home farm, to determine the fertility conten These analyses serve as the basis for devising a system of permane agriculture for the student's home farm.

6. **Advanced Soil Physics.**—Five lecture and laboratory perio a week, first semester; elective in the senior year; prerequisite, Agro omy 4. This course is designed for those students who wish to co tinue the work in Soil Physics begun in Agronomy 4. A study in t field of the effects of discing, harrowing, rolling, subsoiling, fr quency and depth of cultivation with reference to conservation of s moisture. The student may select a soil in which he is interested a make a complete physical analysis thereof; he may make a caref study of the movement of the water therein and its effect upon t growth of plants; he may choose a special irrigation or drainage pro lem in which he is interested; the results of the work are summariz in a final report or thesis. Students who elect this course are a vised to signify their intention of so doing at the end of the colle year, so that materials may be collected during the summer, and servations reported.

7. **Advanced Soil Fertility.**—Five lecture and laboratory peri a week, second semester; elective in the senior year; prerequisit

Agronomy 4 and 5. This course is a continuation of Agronomy 5 and permits the student to study in detail a special soil in which he may be interested or to pursue a special problem. The work may include pot culture work in the green house analysis of the soil used in the pots; application of various fertility elements and their relation to the management of the soil; the study of the micro-organisms of the soil in relation to the preparation and availability of plant food, preparation of culture media, cultures from soil suspensions, preparation and study of a few pure cultures, ammonification, nutrification, nitrogen fixation, legume bacteria and conditions favorable to their growth, innoculation; results of bacterial action determined by quantitative analysis; reading of bulletins, books, etc., and the preparation of a bibliography. The results of the study will be submitted in a final report or thesis.

8. **Soils.**—Two hours per week, second semester; elective in the senior year. A consideration of the effects of the change in water content of soils through irrigation and drainage; the effect upon the physical condition of the soil and upon its productivity, special attention given to the problems of irrigation and drainage of unreclaimed lands in South Dakota. Lectures, reading, field observations.

9. **A Series of Lectures on Various Subjects Pertaining to Soils and Crops.**—Given by request of the Department of Dairy Husbandry for the students of the three months' Creamery Course.

10. **Earth Science; Geology.**—Three recitations and two laboratory periods a week, first semester; required in the senior year of the General Science and Civil Engineering Courses and in the Agronomy group of the Agriculture Course. A course in general geology with the greater emphasis placed upon the physical division of the subject. The geology of South Dakota in relation to soils, water supsupplies and mineral wealth is given special attention. Collections of rocks, minerals, typical fossils, physiographic and geologic models, lantern slides, charts and maps are available for laboratory work and reference.

11. **Earth Science; Meteorology.**—Two recitations and one laboratory period a week, second semester; elective in the junior year or senior year. A practical course dealing with the laws controlling the movements of the atmosphere, the study of climatological and weather factors, with special attention to conditions in the United States, the climate and weather of South Dakota in relation to her various economic interests, weather maps and forecasts.

Graduate Courses.—A limited number of courses of study may be arranged for students who have already received the Bachelor's Degree and who desire to pursue some line of investigational work. Such students should consult with the professor in charge. Problems relating to systems of farming and soil fertility, mechanical composition of soils, drainage water, variation in type as related to crop yields, influence of selection and breeding upon yield of special crops may be included in a list of possible studies for graduates.

Department of Horticulture and Forestry

PROFESSOR HANSEN; MR. STOLTENBERG.

In this department the work is given from two standpoints. In one, especially in the study of genetics, emphasis is placed upon the general philosophy of the subject as being essential to a general education. The claim is made that some of the principles of horticulture and forestry are essential to any well rounded education and to the best preparation for citizenship. The second standpoint is that of students intending to make a life work of horticulture or forestry, either as a business or a profession. Throughout the course full use is made of the student's attainments in the various sciences underlying these subjects. The variation of plants and the principles and methods of their development under the hand of man are considered, as well as their propagation and cultivation.

Field and laboratory exercises emphasize the lectures and recitations of the class room. The habit of independent investigation and close observation is encouraaged by requiring written reports of outdoor excursions or demonstrations. Excellent facilities for practical illustration are afforded by the ninety acres of experiment station horticulture grounds and college campus. In this domain are included orchards, forestry plantations, nurseries, vegetable gardens, small fruit plantations, flower borders and a collection of ornamental plants. Special attention is paid to the breeding of hardy fruits adapted to prairie conditions and the work in this line is now second to none in extent. The department greenhouses consist of two sections, one for the general floriculture work and the other for fruit-breeding experiments. In addition, the horticultural buildings contain class rooms, laboratory, grafting and potting rooms and storage cellars.

Special stress is placed upon practical work in the grafting room.

The following work is offered:

1-2. **General Horticulture.**—One laboratory period a week throughout the year; required in the sophomore year of the Agriculture Course. An introduction to the various divisions of horticultural work, especially the propagation of plants and the best western nursery methods of planting, pruning and cultivation. Special attention is given to the grafting and budding of fruit trees. Elementary exercises in the identification and description of fruits and the origination of new varieties. Students are required in their laboratory notes to give the reasons why as well as the methods.

3. **Floriculture and Market Gardening.**—One recitation and laboratory period a week, second semester; required in the junior year of the horticulture group, Agriculture Course.

The commercial and amateur cultivation of flowers and vegetables under glass and in the open air; lectures; demonstrations, and text book work.

4. **Forestry.**—Two lectures or recitation a week, first semester; required in the senior year of the horticulture group, Agriculture Course.

Principles of forestry; the influence of forests on climate; timber planting on the prairies; European forestry methods as modified by prairie conditions; shelter belts; the propagation, cultivation, characteristics and use of forest trees; lectures and demonstrations.

Texts: Pinchot's Primer of Forestry; Green's Forestry in Minnesota; Proceedings of the American Forest Congress.

5. **Systematic Pomology.**—One laboratory exercise a week, first semester; required in the junior year of the horticulture group, Agriculture Course.

Principles of fruit culture with special reference to prairie conditions; exercises in the identification and description of fruits. Texts: American Horticultural Manual, Bailey's Principles of Fruit Culture.

6. **Landscape Gardening.**—Two laboratory periods a week, second semester; required in the junior year of the horticulture group, Agriculture Course.

The philosophy of the beautiful in its various modes of expression; gardening as one of the fine arts; historic developments of the ancient or geometric and the modern or natural styles; the best ornamental trees, shrubs, plants and hedges. Special attention is paid to the development of originality in the planning and laying out of country and city home grounds, parks and school grounds; lectures; text-book, and references.

7. **Heredity.**—Three recitations a week, second semester; required in the junior year of the horticulture group, Agriculture Course.

This subject is especially recommended to students of the sciences relating to plants and animals, and also to students of general history and sociology. The evolution of plants and animals under the hand of man and in the state of nature; the philosophy of artificial evolution or the modification and amelioration of plants and animals by environment, selection and hybridization; the relation of genetics to society; recent theories and work in plant-breeding.

Texts: Darwin's Animals and Plants under Domestication; De Vries' Species and Varieties, their Origin by Mutation; Bailey's Plant-Breeding and Survival of the Unlike; Reports of International Conferences on Genetics; Reports of the U. S. Department of Agriculture.

8. **Plant Propagation.**—Practical exercises in tree, shrub and plant propagation for students in the short agricultural course.

9. **Floriculture and Home Gardening.**—Instruction in home gardening for the students in the short winter course in domestic economy and agriculture; text-books; practical demonstrations and exercises.

10. **Forestry and Landscape Gardening.**—Lectures and exercises in the leading essentials of tree culture and the planting of home grounds for students in the short winter courses in agriculture.

Department of Home Economics

MISS TOUGH; MISS ERWIN.

The purpose of the department is to provide training along the lines of intelligent house-keeping and home-making and also to prepare women to teach the subject. The location for carrying on the work is most favorable being the entire third floor of the North Building where there is abundance of room, air and light. The rooms consist of a large kitchen, a dining-room, a sewing-room and a recitation room provided with the equipment necessary for carrying on the work. Through the general library, opportunity is given for the use of the newest and best literature relating to the subject.

The work offered is intended to impart knowledge, develop skill in execution, stimulate self-direction and broaden and strengthen the individual. A good foundation of pure science is laid for all applied science while handwork, including sewing, gives opportunity for artistic expression the principles of which are gained through the regular art training.

In addition to the regular four-year course, which includes subjects for general training, a two-year normal course, described below, is offered, which is planned for students who intend to teach Home Economics. The requirements for entrance to this course are that the candidate be not under eighteen years of age and that she shall have completed a regular four-years' high school course or its equivalent. The subjects included in the course are similar in character to those designed for the general Home Economics Course, with the difference that the work is more concentrated and gives especial emphasis to the presentation with a view to teaching.

The general subjects of the department are as follows:

For Home Economics 1 and 2, see the preparatory department.

3. **Principles of Cookery.**—Two recitations and three laboratory periods a week, first semester; required in the freshman year of the Home Economics Courses; elective in the freshman year of General Science Course; freshman or higher classification necessary. The works covers the study of food in source, composition, nutritive value, preparation and serving with training in care of kitchen and utensils.

4. **Serving and Dietetics.**—One recitation and two laboratory periods a week, second semester; required in the junior year of the four year Home Economics Course, and in the second year of the two year Home Economics course; elective in the junior year of General Science Course in place of Physics 4; prerequisite, Botany 2, Chemistry 3, Zoology 3 and Home Economics 1. The work includes preparation of menus with special reference to balanced diet, cooking and serving of meals and calculation of dietaries.

5. **Special Problems in Cookery.**—One recitation and two laboratory periods a week, second semester; required in the senior year of the four year Home Economics Course, and in the second year of the two year Home Economics Course; prerequisite, Botany 2, Chemistry 3, Zoology 3 and Home Economics 2.

The course covers diet for children and invalids and advanced work in the preparation and serving of meals, special attention being given to cost.

6. **Sanitation and Hygiene.**—Three recitation periods a week, first semester; required in the senior year of the Home Economics Course; elective, together with Home Economics 6, in the junior year of the General Science Course in place of Physics 3; prerequisite, Chemistry 2, Botany 2 and Zoology 2. The course includes consideration of municipal and rural problems in sanitation, the care and handling of food in the market and in the home, the lighting, heating, ventilation, plumbing and general care of the house.

7. **Home Nursing.**—Three recitation periods a week, first semester; required in the junior year of the four year Home Economics Course. Senior classification or special advanced standing necessary. The work covers the general care of the sick, directions for emergencies and consideration of some common disease.

8. **The House and Market.**—Three recitations a week; required in the first semester of the senior year of the four year Home Economics Course and with modification in the second semester of the two

year Home Economics Course; elective, together with Home Economics 4, in place of Physics 3, in junior year of the General Science Course. The work embraces construction, furnishing and general care, including management and cleaning of the house and its equipment, the cost of necessary articles, purchase and care of food, the preparation of marketing lists and a study of accounts.

9. **Sanitation and Home Nursing.**—Two recitations a week, second semester; required in the two year Home Economics Course. This course is the work of courses 6 and 7 abridged.

10. **Textiles and Principles of Sewing.**—Four lecture and laboratory periods a week, second semester; required in the freshman year of the Home Economics Courses; elective in the freshman year of the General Science Course. The course covers the making of simple and useful articles in which are incorporated the stitches necessary for garment making; the making of a set of undergarments is also required. A study is made of the fabrics used in such work along the lines of source, manufacture, general characteristics and qualities and adaptations to specific uses.

11. **Dressmaking.**—Two laboratory periods a week, first semester; required in the sophomore year of the Home Economics Course; prerequisite, Home Economics 9. The work includes drafting, cutting, fitting, and making of a shirt-waist suit, etc.

12. **Advanced Dressmaking.**—Three recitation and laboratory periods a week, second semester; required in the junior year of the Home Economic Course; prerequisite, Home Economics 10 and 11. The course covers the making of a fitted and lined costume and such other work as seems best.

13. **Normal Methods.**—One lecture a week, first semester; required in the second year of the two year Home Economics Course.

14. **Sewing and Handwork.**—Two laboratory periods a week, first semester; required in the second year of the two year Home Economics Course. This work is specially adopted to the needs of teachers.

15. **Practice Teaching.**—One lecture and two laboratory periods a week, second semester; required in the second year of the two year Home Economics Course.

Two Year Normal Course in Home Economics

FIRST YEAR.

First Semester—

Elementary Chemistry, a & b 5	Chemistry	1
Normal Drawing and Design, b 2	Art	14
Principles of Cookery, a 2 b 3	Home Economics	3
Principles of Botany, a 2 b 3	Botany	1
French, a 4	French	1

Second Semester—

Physics of Heat, a 2	Physics	9
Sanitation and Home Nursing, a 2	Home Economics	9
Elementary Chemistry, a 2 b 3	Chemistry	2
Textiles and Sewing, a 2 b 2	Home Economics	10
The House and Market, a 2	Home Economics	8
Normal Drawing, b 2	Art	14a
French, a 4	French	2

SECOND YEAR.

First Semester—

Psychology, a 3	Philosophy	3
History of Education, a 3	Philosophy	5
Household Chemistry, a & b 5	Chemistry	8
General Zoology and Physiology, a 2 b 3	Zoology	3
Normal Methods, a 1	Home Economics	13
Theory of Design and Handicraft, b 2	Art	15
Sewing and Handwork, b 2	Home Economics	14

Second Semester—

Principles of Education, a 3	Philosophy	5
Practice Teaching, a 1 b 2	Home Economics	15
General Zoology and Physiology, a 2 b 3	Zoology	4
Serving and Dietetics, a 1 b 2	Home Economics	4
Special Problems in Cookery, a 1 b 2	Home Economics	5
Theory of Design and Handicraft, b 2	Art	15a

Department of Mechanical Engineering

PROFESSOR SOLBERG; PROFESSOR COOK; MR. BONELL;
MR. PHILLIPS.

The object of the work offered is to give the students a thorough training in the theoretical principles underlying the science of mechanics and machines and at the same time to enable them to become particularly familiar with some of the numerous applications of these principles which are of such inestimable value to the human race.

The instruction is both theoretical and practical. The usual methods of text-book study and lectures are employed, but the student is required to put into practice, as far as possible, the instruction he receives. Hence the work of the class-room is supplemented and practically exemplified by practice in shops. The student not only studies the theories of constructing and operating machinery, but in the drawing room he designs, and in the shop he constructs and operates such machines. It is believed that those who complete this course will be able to fill responsible positions in manufacturing establishments.

The department is located in the Engineering Building. The workshops are supplied with a large variety and quantity of tools. They are furnished with twenty-five sets of carpenter tools and with eight wood turning and one pattern maker's lathe, a scroll saw, a combination circular saw and a twenty-inch planer. There is also a variety of special tools for wood working.

The machine shop is furnished with a large number of engine lathes of different sizes, a universal milling machine, shaper, planer, tool grinder, drill press, emery wheels and a great variety of hand tools. The machinery is driven by a 50-horse power steam engine.

The Experimental Engineering Laboratory is equipped with a 100,000 pound vertical screw testing machine, for making tensile and compressive tests of the various materials of construction; an automatic shot cement briquette testing machine; a gas engine; a 10 by 10 steam engine; an 8 by 10 steam engine; a 5 by 7 steam engine, and there are also available for this work a 12 by 14 steam engine and two 48 by 16 horizontal tubular boilers. A calorimeter for determining the heat values of gases; a calorimeter for making British thermal unit tests of coal; and an apparatus for flue gas analysis are also used in this work.

The laboratory also possesses a large amount of small apparatus such as indicators, planimeters, steam gauges, thermometers, etc., and a complete outfit for making tests of sand, cement and concrete.

Work in architectural drawing and designing is offered. Additional work along this line will be given to students who desire it.

A number of pictures, drawings, and illustrative material has been recently added to the equipment through the liberality of manufacturers and friends of the College.

The following work is offered:

For Mechanical Engineering 1 and 2, see the preparatory department.

3. **Machine Shop.**—Three laboratory periods a week, second semester; required in the freshman year of the Mechanical and the

Electrical Engineering Courses. Manipulation of the various machines in turning, planing, shaping, milling, gear cutting and tool making.

4. **Machine Shop.**—Five laboratory periods a week, first semester; required in the sophomore year of the Mechanical and the Electrical Engineering Courses. Construction of some machine or appliance from designs made in drawing room.

5. **Mechanical Drawing.**—Five laboratory periods a week, first semester; required in the freshman year of the three Engineering Courses. Instrumental drawing, geometrical problems and parts of machines. This work is offered during the entire year, and at hours convenient to teachers and students.

6. **Architectural Drawing.**—Three times a week, first or second semester; required in senior year of the horticultural group, Agriculture Course. Rendered drawings of simple buildings, examples of various orders, giving facility in draughtsmanship, familiarizing students with principles.

6a. **Architectural Design.**—Three times a week, first semester; elective. Principles of planning introduced in practical problems, exercises in composition and details.

6b. **Perspective.**—Five times a week, first or second semester; elective.

7. **Descriptive Geometry.**—One recitation and two laboratory periods a week, second semester; required in the sophomore year of the three Engineering Courses; prerequisite, plane geometry. Instruction in methods of representing by drawing all geometrical magnitudes and solution of problems relating to these magnitudes in space.

8. **Machine Design.**—Two laboratory periods a week, second semester; required in the sophomore year of the Mechanical and the Electrical Engineering Courses. Solution of various problems involving the design of simple parts of the machine.

9. **Machine Design.**—Four laboratory periods a week, first semester; required in the junior year of the three Engineering Courses. Continuation of Mechanical Engineering 8.

10. **Elements of Mechanism.**—Three recitations a week, first semester; required in the junior year of the three Engineering Courses. Elements of machinery, velocity ratios, graphic representation of speed and acceleration; motion transmitting parts, such as gears, belts, cams, screws, link work; automatic feeds, parallel and quick return motions; designing. Text: Wood and Stahl.

11. **Gas Engines and Gas Producers.**—Two recitations a week, first semester; required in the senior year of the Mechanical and Electrical Engineering Courses and in the fifth year of the Civil Engineering Course; prerequisite, Thermodynamics. Study of the

theory, design and operation of gas, gasoline and oil engines and of the various types of gas producers.

12. **Steam Engines and Thermodynamics.**—Five recitations a week, second semester; required in the junior year of the three Engineering Courses; prerequisite, Calculus. Study of the modern steam engine, slide valve, and when in combination with independent cut-off valves, link motion and Zeuner diagrams, reciprocating parts and indicator practice; the principles of the theory of heat which are necessary to a study of the various kinds of heat engines; the application of laws of thermodynamics to the steam engine and a study of steam engine economy by entropy temperature analysis and by other graphical methods. Text: Ripper's Steam Engine.

13. **Steam Boilers.**—Two recitations a week, first semester; required in the senior year of the three Enginering Courses; prerequisite, Mechanical Engineering 16. Advantages and disadvantages of using the various forms of boilers, methods of construction, tubes and flues, plates, riveting, bracing, grate and heating surface, gages and feed appliances, setting, care and operation. Text: Peabody's Steam Boilers.

14. **Kinematics.**—Two laboratory periods a week, second semester; required for the fifth year degree in the Mechanical and the Civil Engineering Courses. Geometry of machinery, problems in the design of motion transmitting appliances.

15. **Stresses in Roofs and Bridges.**—Three recitations a week, first semester; required in the senior year of the Mechanical and the Civil Engineering Courses. Graphical determination of stresses under action of static, moving and wind force. Text: Jacoby and Merriman, Vol. 2.

16. **Mechanics of Materials.**—Five recitations a week, second semester; required in the junior year of the three engineering courses; prerequisite, Analytic Mechanics. Study of the strength and elastic properties of the materials of construction and the behavior of and characteristics displayed by these materials when put under stress. Text: Merriman's Mechanics of Materials.

17. **Experimental Engineering.**—Three laboratory periods a week, first semester; required in the senior year of the three engineering courses; prerequisite, Mechanics of Materials. Includes a series of tests of the various materials of construction, such as wood, cast iron, wrought iron, steel, sand, cement and concrete. Also includes the calibration of steam gauges, thermometers, planimeters, and the testing of oils.

18. **Experimental Engineering.**—Five laboratory periods a week, second semester; required in the senior year of the three engineering courses. Includes a complete series of tests of the heating values of various coals; use of the steam engine indicator, throttling and separating calorimeters, dynamometers and Prony brakes; and com-

plete efficiency tests of engines and boilers in actual operation. It is the endeavor in this work to make each student thoroughly familiar with the construction and operation of steam engines, steam boilers, gas engines, and the many attachments and auxiliaries necessary for their efficient operation.

19. **Engineering Design.**—Five laboratory periods a week, first semester; required for the fifth year degree in Mechanical Engineering. Solution in the drawing room of some practical problems in design and making working drawings of same.

20. **Engineering Design.**—Five laboratory periods a week, second semester; required in the senior year of the Mechanical Engineering Course. Continuation of Mechanical Engineering 19.

21. **Structural Design.**—Three laboratory periods a week, first semester; required for the fifth year degree in Mechanical Engineering. Designing of roofs and buildings for power stations. For students in mechanical and electrical engineering.

22. **Structural Engineering.**—Two laboratory periods a week, second semester; required for the fifth year degree in Mechanical Engineering. Continuation of Mechanical Engineering 21, with special reference to results obtained from Mechanical Engineering 18.

23. **Statics.**—Two recitations a week, first semester; required for the fifth year degree in Mechanical Engineering. Treated with special reference to the requirements of engineers. Resolution and composition of forces; center of gravity; principles of equilibrium with numerous applications. Graphic as well as algebraic methods are used. The various hurtful resistances to friction are considered, and numerous problems worked out in the drawing room.

24. **Heating and Ventilation.**—Two recitations a week, second semester; required for the fifth year degree in Mechanical Engineering. A study of the principles underlying the design of the various systems of heating and ventilation in common use, including such details as loss of heat from buildings, problems in proportioning ventilating ducts; and the arrangement of systems of piping for steam and hot water. A study is also made of the various mechanical details entering into the installation of private plants and also plants operated from central stations.

25. **Masonry and Foundations.**—Two recitations a week, second semester; required of senior engineering students. A study of cement, concrete and building stone with special reference to their use in walls and foundations; bearing power of soils; design and construction of foundations of various kinds.

26. **Special Problems in Experimental Engineering.**—Two laboratory periods a week, second semester. Elective open to senior engineering students upon approval of head of their department.

27-28. **Thesis Work.**—Two and three hours a week, first and second semesters; required for the fifth year degree in Mechanical Engineering. At the beginning of the fifth year's work a subject is assigned to each student, which he is to investigate, and on which he is required to prepare a thesis. This work may involve original design, or it may involve an experimental investigation of the action of certain machines or appliances or of the phenomena developed by the action of certain mechanical forces. In the pursuit of this work the student is thrown largely on his own responsibility. He is expected to familiarize himself with the literature on the subject and to study thoroughly the methods involved in the subject selected. The subject chosen should be submitted to the professor in charge not later than November first of the current year.

Department of Electrical Engineering

PROFESSOR BRACKETT; MR. HOY.

The purpose of the work offered in electrical engineering is to impart to the student a practical knowledge of the principles of applied electricity. A well equipped laboratory is provided for the use of the student to supplement the lecture and recitation work of the class room. The laboratory equipment consists of generators and motors of both direct and alternating types, transformers and measuring instruments of different types and classes for the recording and measuring of currents, pressures and speeds. A sixty-cell storage battery is used in connection with the work in photometry. Various types of lamps, arc and incandescent, lamp banks, rheostats, and other apparatus are also available.

The student will be taught how to set up and adjust for the best conditions of operation all the usual types of dynamos, motors, transformers and standard auxiliary apparatus. Much additional laboratory work will be given to develop a clear understanding of the fundamental principles involved in the design of modern electrical machinery and in the most advanced engineering practice. The knowledge to be derived from this work is very important in the practical operation of electrical machinery and systems, but it cannot be obtained directly under the conditions of commercial service, where most of the apparatus must be used in one way only at all times.

The following courses are offered:

1. **Electricity and Magnetism.**—Three recitations and two laboratory periods a week, first semester; required in the junior year of the Electrical and Mechanical Engineering Courses, and in the senior year of the Civil Engineering Course; prerequisite, Mathematics 7, 8 and 9, Physics 4. This subject embraces a study of the theory and principles of static and current electricity, magnetism and the magnetic circuit, electro-magnetic induction and laws of the electric circuit, primary batteries, principles of telegraphy and the telephone.

2. **Electrical Measurements.**—One laboratory period per week, second semester; required in the junior year of the Electrical Engineering Course; prerequisite, Electrical Engineering 1. Instruction and practice in the use, care and standardization of ammeters, voltmeters, wattmeters, resistance standards, Wheatstone bridges, potentiometers, sensitive galvanometers and standard cells. Estimation of the accuracy and reliability of different methods of testing, the correction and elimination of errors.

3. **Dynamo Electric Machinery.**—Three recitations and two laboratory periods a week, second semester; required in the junior year of the Mechanical and Electrical Engineering Courses, and for the fifth year degree in Civil Engineering; prerequisite, Mathematics 11, Physics 4, and Electrical Engineering 1. Theory of the magnetic circuit, magnetic induction in iron, principles underlying the design, construction and operation of generators and motors. Resistance and insulation tests, experimental study of the operation and behavior of different types of motors and generators, efficiency tests.

4. **Alternating Currents.**—Three recitations and two laboratory periods a week, first semester; required in the senior year of the Electrical Engineering Course, also for the fifth year degree in Mechanical Engineering; prerequisite, Mathematics 11, Physics 4, and Electrical Engineering 1 and 3. Study of the flow of alternating currents, inductance, capacity, principles of construction of alternating currents generators and motors, transformers; measurement of inductance and capacity, wave form of pressure and current, efficiency tests of machines and transformers.

5. **Dynamo Design.**—Three laboratory periods a week, first semester; required in the senior year of the Electrical Engineering Course; prerequisite, Mathematics 11, Physics 4 and Electrical Engineering 1 and 3. In this the student works out the design and makes drawings for a shunt or compound wound direct current generator or motor. The object of this course is to teach the theory of design of machines and to familiarize the student with the details and parts of the machine in relation to each other and to the machine as a whole.

6. **Electric Light and Power Distribution.**—Three recitations and two laboratory periods a week, second semester; required in the senior year of the Electrical Engineering Course; prerequisite, Mathe-

matics 11, Physics 4 and Electrical Engineering 4. A study of transmission lines, resistance and inductance effects in line circuits, kinds of apparatus used in the generating station and in the receiving station, arc and incandescent lamps, special forms of lamps, indicating and recording instruments, laboratory work along the lines of lamp testing and the calibration of instruments.

7. **Polyphase Currents.**—Three recitations and two laboratory periods a week, first semester; required for the fifth year degree in Electrical Engineering; prerequisite, all work required for the Bachelor's degree in this department. A study of polyphase currents, machines, transmission systems and controlling apparatus; experimental work in connection with polyphase currents.

8. **Electrical Design.**—Three laboratory periods a week, first semester; required for the fifth year degree in Electrical Engineering; prerequisite, all the work required for the Bachelor's degree in this department. A study of the design of transformers, alternating current generators, induction motors, or some special kinds of apparatus, and the principles involved in the construction of the above.

9. **Power Stations.**—Two recitations and three laboratory periods a week, second semester; required for the fifth year degree in Electrical Engineering; prerequisite, Electrical Engineering 7 and 8. A study of the different types of stations, arrangement of boilers, engines, machines, switchboards and electrical apparatus, location of station with respect to distributing system; station operation and maintenance. A station design is worked out by the student and drawings of plans made, while according to circumstances, more or less of the laboratory time will be spent on experiments and tests relating to plant operation and control.

10. **Long Distance Transmission.**—Two recitations or lecture periods per week, second semester; required for the fifth year degree in Electrical Engineering; prerequisite, Electrical Engineering 1 to 7 inclusive. Study of long distance line construction, protective apparatus, switchboards, cutouts, regulating devices, etc., as exemplified in the latest practice; study of recent construction and installations, and application of theory. Present theoretical and practical limitations to efficient and profitable distribution over large areas, and the possibilities of future development.

11-12. **Thesis.**—Two or three hours a week, first and second semesters. A complete investigation of some electrical subject or apparatus or the design of a machine or other electrical appliance, containing when possible the results of personal and independent observation. The subject must be selected early in the year (not later than November first,) and reports submitted from time to time concerning the progress of the work to the professor in charge.

Department of Civil Engineering

*PROFESSOR DERR.

The course in civil engineering is designed to impart to students general and technical knowledge, so that, equipped with their theoretical education and as much of engineering practice as can well be acquired in college, they may develop into successful practitioners.

It is aimed to give as thorough a preparation as time will permit in the following subjects: the surveying of land, location and construction of roads, railroads, canals and water works; the construction of foundations in water and on land, and of superstructures and tunnels; the application of mechanics, graphical statics, and descriptive geometry to the construction of various kinds of arches, trusses, roofs, and bridges; the sewerage of towns, and the irrigation and reclaiming of land; the preparation of detail drawings, and plans and specifications; the laws of construction as related to contracts, bids and bidders; political economy for the purpose of making clear the economic value of the civil engineer as a director of industrial enterprises.

1. **Surveying.**—Five periods of recitation and field work a week, second semester; required in the freshman year of the Civil Engineering Course; prerequisite, Mathematics 9. General principles and fundamental operations; instruments; the declination of the magnetic needle; laying out, parting off and dividing up land; United States land surveys. Text: Tracy's Plane Surveying.

2. **Surveying.**—Two periods of recitation and field work a week, second semester; required in the Agricultural, Mechanical Engineering and Electrical Engineering Courses; elective in the General Science Course, freshman year. An abridged course for other students in engineering and agriculture, along the lines of Civil Engineering 1.

3. **Surveying.**—Five periods of recitation and field work a week, first semester; required in the sophomore year of the Civil Engineering Course. A continuation of Civil Engineering 1. Leveling, higher surveying; adjustment of instruments; topography and exploratory surveying; plane and tachymetric surveying.

4. **Topographical Surveying.**—Two periods of recitation and field work a week, second semester; required in the sophomore year of

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*Resigned April 1, 1913.

the Civil Engineering Course; prerequisite, Civil Engineering 1. Triangulation, precise leveling. Transit stadia lines, connecting with triangulation stations, form the basis for the topography, and plane-table practice is given in filling in the details. Maps are plotted to scale from the co-ordinates of the stadia lines, adjusted to the triangulation, and contours are drawn. Recitations, field work, computations and drawings. Text: Wilson's Topographical Surveying.

5. **Hydraulics.**—Three recitations a week, first semester; required in the junior year of the Engineering Courses; prerequisite, Mathematics 11. Hydrostatics and theoretical hydraulics; study of flow through orifices, tubes, pipes, over weirs, in conduits, canals and rivers; application in engineering, water-power plants and development. Text: Merriman's Hydraulics.

6. **Geodesy.**—Three periods of recitation and field work a week, second semester; required in the junior year of the Civil Engineering Course; prerequisite, Mathematics 11 and Civil Engineering 1. Construction and use of instruments with reference to the elimination of instrumental errors; precise leveling; methods of sounding; development of the method of least squares, with application to survey problems and to the adjustment of a triangulation. Text: Crandall's Geodesy and Least Squares.

7. **Water Supply.**—Two recitations a week, second semester; required in the junior year of the Civil Engineering Course; prerequisite, Civil Engineering 5. The design, construction, operation and management of municipal water supply systems. Text: Turneaure and Russell's Public Water Supplies.

8. **Irrigation.**—Two recitations a week, second semester; required in the junior year of the Civil Engineering Course; prerequisite, Civil Engineering 5. The principles underlying the design and construction of irrigation works; hydrography, canals, storage reservoirs. Text: Wilson's Irrigation Engineering.

9. **Sewerage.**—Two recitations a week, first semester; required in the senior year of the Civil Engineering Course. A study of the design, construction and operation of sewer systems, and of the various methods of sewerage disposal; water purification. Text: Folwell's Sewerage.

10. **Roads and Pavements.**—Two recitations a week, first semester; required in the senior year of the Civil Engineering Course. Construction and maintenance of city streets and country roads; study of pavements and paving materials. Text: Baker's Roads and Pavements.

11. **Contracts and Specifications.**—Two recitations a week, first semester; required in the senior year of the three engineering Courses. Synopsis of the law of contracts as applied to engineering construction; study of typical contracts and specifications; riparian

rights, boundary lines, survey descriptions, etc. Text: Johnson's Engineering Contracts and Specifications.

12. **Railroad Engineering**—One recitation and two periods of field work a week, second semester; required in the senior year of the Civil Engineering Course, and for the fifth year degree in Mechanical and Electrical Engineering; prerequisite, Civil Engineering 1. The field work includes the laying out of curves and the staking out of structures, in addition to making the reconnaissance, preliminary and location surveys for a short line of railway; recitations, lectures, field work and drawing. Text: Raymond's Elements of Railroad Engineering.

13. **Dam and Reservoir Designs.**—Two laboratory periods a week, second semester; required in the senior year of the Civil Engineering Course; prerequisite, Civil Engineering 5, and Mathematics 11 and 13. The study of modern hydraulic construction; dams, reservoirs, conduits, levees, etc. Structures relating to water power, canals and irrigation.

14. **Structural Design.**—Five periods of recitation and laboratory work a week, first semester; required for the fifth year degree in Civil Engineering; prerequisite, Mathematics 11, Mechanical Engineering 6. Computation of stresses in roof and bridge trusses; highway and railroad bridge trusses; center of gravity and moment of inertia. Text: Merriman and Jacoby's Roofs and Bridges, Parts I and II.

15. **Structural Design**—Three laboratory periods a week, second semester; required for the fifth year degree in Civil Engineering; prerequisite, Civil Engineering 15. Principle of economic design; design of plate girder bridge, pin bridge, riveted bridge; continuous bridges, draw bridges, cantilever bridges, suspension bridges, arches; building construction. Text: Merriman and Jacoby's Roofs and Bridges, Part III.

16. **Hydraulic Motors.**—Three recitations a week, first semester; required for the fifth year degree in Civil Engineering; prerequisite, Civil Engineering 5. A study of reaction turbines and impulse wheels; construction, regulation, testing sources of loss of energy. Text: Church's Hydraulic Motors.

17. **Reinforced Concrete**—Three recitations a week, first semester; required for the fifth year degree in Civil Engineering; prerequisite, Mathematics 13, Mechanical Engineering 16. A study of reinforced concrete construction, including investigation of stresses and the determination of form and proportions; recitations, computations, and drawing.

18-19. **Thesis**—Two and three hours a week, first and second semester; required for the fifth year degree in Civil Engineering. The thesis is intended to show the student's ability to apply the fundamental principles acquired in this course, in original investigation or design of some engineering structure, the student working independently and making regular reports showing the progress of the investigation or design to the professor having charge of the subject. The subject and the plan of the work should be submitted to the professor in charge not later than November first of the current year.

Department of English

PROFESSOR BATES; ASSOCIATE PROFESSOR POWERS; MR. HARRIMAN.

The aim of the department is three-fold: to train the student in the effective use of the English language in original composition; to afford him drill in public speaking; and to give him an intelligent appreciation of English literature.

For English 1 to 8, see the preparatory department.

9-10. **Rhetoric.**—Three recitation periods a week, throughout the year; required in the freshman year of all the courses leading to the degree of Bachelor of Science. Prerequisite, the English of the preparatory department. The main purpose of this course is to familiarize the student with the principles of rhetoric and to enable him to use them effectively in composition. To this end, written work is demanded constantly, and is carefully criticised both in the class-room and in conferences between the instructor and the individual student. The work is supplemented with reading, in the choice of which the student is allowed considerable latitude.

11-12. **English Literature from 1625 to 1798.**—Three recitation periods a week, throughout the year; required in the sophomore year of the General Science and Home Economics Courses; optional with French in the Engineering Courses. This course consists in a study of the literature, exclusive of prose fiction, of the ages of Milton, Dryden, Pope and Johnson. A large amount of reading and frequent papers are required. Attention is paid, in lectures, to literary movements and to the relation between literature and other phases of the life of the time.

13-14, **English Literature from 1798 to 1892.**—Three recitation periods a week, throughout the year; required in the junior or senior year of the General Science and Home Economics Courses; elective in various other courses. This course covers the literature, exclusive of prose fiction, of the ages of Wordsworth and Tennyson. Much reading and occasional papers are required. Lectures are given on nineteenth century writers and literary movements, together with their relation to other phases of the life of the time. Frequent conferences are held between the instructor and the individual student.

15. **English Literature, exclusive of Drama, from the Beginnings to 1625.**—Three recitation periods a week, first semester; elective in junior or senior year. In this course special stress is laid on ballad and epic, Chaucer, and the development of the language.

16. **English Drama from the Beginnings to 1625.**—Three recitation periods a week, second semester; elective in junior or senior year. Shakespeare and his contemporaries receive the main emphasis.

17-18. **The English Novel.**—Two recitation periods a week, throughout the year; elective in the junior or senior year. Owing to the large amount of reading, the course counts as three hours' credit each semester. Not given 1913-1914.

19-20. **Biblical Literature.**—Two recitation periods a week, tthroughout the year; elective in junior or senior year.

21-22. **Argumentation and Debate.**—Three recitation periods a week, throughout the year; elective in junior or senior year.

23-24. **Public Speaking.**—Three recitations a week the first semester and two recitation a week second semester; required in the sophomore year of the General Science Course. A study of the fundamental conditions for effective speaking, approached from the psychological standpoint. Much attention is also given to the study of selected speeches and the delivery of declamations.

25-26. **Public Speaking.**—Two recitations a week the first semester and one hour a week the second semester; required in the sophomore year of students in the Agriculture Course.

27. **Dramatic Interpretation.**—One recitation a week, first or second semester; elective in the junior or senior year.

Department of Modern Languages

PROFESSOR CONDIT.

A good reading knowledge of French or German, or of both, is imperative for students pursuing work along scientific, technical or historical lines, and they are indispensible as literary and cultural subjects.

Two years of German are offered in the preparatory course. In the General Science, the Home Economics and the Agriculture Courses of the College, either French or German is required during the freshman and sophomore years. In the Engineering Courses, during the sophomore year the students are allowed an option between beginning French and English literature. Elective work in both French and German is offered and the student is strongly advised to take a third year if possible of the language chosen.

In the beginning French a special division is arranged for the students of the Normal Course in Home Economics, and in the second year German a special division reads scientific German.

GERMAN.

1. **German.**—Four recitations a week, first semester; optional in the freshman year according to the above requirements. German grammar and composition; constant drill in pronunciation, occasioned memorizing of selected passages, and practicing in speaking German. Reading is begun early. Text: Bacon's Grammar.

2. **German.**—Four recitations a week, second semester. Continuation of German 1. Bacon's Im Vaterland.

3. **German.**—Four recitations a week, first semester; optional in the sophomore year according to the above requirements. Prose and poetry of the last century; composition and conversation. Text: Joynes-Meissner's Grammar, Pope's Composition.

4. **German.**—Four recitations a week, second semester. Continuation of German 3. In addition there will be extensive reading of scientific German. Text: Wait's German Science Reader, Schiller's William Tell.

5. **German.**—Three recitations a week, first semester; elective in the junior or senior year. Written and oral composition, and readings such as Freytag's Journalisten and Goethe's Hermann und Dorothea.

6. **German.**—Three recitations a week, second semester; elective in the junior or senior year. Goethe's life and works; Goethe and Schiller; or Wenckebach's Meisterwerke des Mittelalters, with collateral reading.

FRENCH.

1. **French.**—Four recitations a week, first semester; optional in the freshman year according to the above requirements. French grammar and composition. Thorough drill in pronunciation; reading and practice in speaking begun very early. Text: Fraser and Squair's Grammar.

2. **French.**—Four recitations a week, second semester. Continuation of French 1. Dictation exercises, memorizing of selected passages, conversation. Text: Super's Reader.

3. **French.**—Four recitations a week, first semester; optional in the sophomore year according to the above requirements. Readings from nineteenth century writers; Koren's French composition.

4. **French.**—Four recitations a week, second semester. Continuation of French 3.

5. **French.**—Three recitations a week, first semester; elective in the junior or senior year. Corneille, Racine, La Fontaine; their lives

and works; their influence on their contemporaries; the literature and society of their time.

6. **French.**—Three recitations a week, second semester; elective in the junior or senior year. Open to those who have completed French 5. Moliere and Voltaire; their lives and writings; their influence on French and English thought.

Department of History and Political Science

PROFESSOR HARDING.

The aim of this department is to introduce the student to such studies as may enable him to deal with economic problems and to fulfill his social and political duties; to develop in him the power to use critically and constructively the historical method, and especially to awaken in him an interest in the great field of history and political science and an enthusiasm for personal individual effort. Constant endeavor is made to teach the practical application of the social, political and economic experiences of the race to the problems of modern life.

The text-book is supplemented by lectures and class discussions based upon assigned readings or the original work of students. Students are encouraged in every way to make use of the College library, which is the tool house of this department.

For History 1 to 6, see the preparatory department.

7. **Medieval History.**—Three recitations a week, first semester; required in the junior year of the General Science and Home Economics Courses. A general survey of the history of Europe from the barbarian invasions to the close of the fifteenth century. Lectures, text-books, papers, reports and practices in application of the fundamental principles used in testing the value of historical material. Text: Robinson's History of Western Europe.

8. **Modern History.**—Three recitations a week, second semester; required of the same classes as History 7, of which it is a continuation. History of Europe from the opening of the sixteenth century to 1815.

9. **American History.**—Three recitations a week, first semester; elective in the junior or senior year; prerequisite, History 7 and 8. A study of constitutional and political development from 1837 to 1829. Lectures, library work, reports, and careful study of assigned sources.

10. **American History.**—Three recitations a week, second semes-

ter. Continuation of History 9. The constitutional and political history of the United States from the beginning of Jackson's administration to the Civil War.

11. **Nineteenth Century History.**—Three recitations a week, first semester; elective in junior or senior year; prerequisite, History 7 and 8. A study of national development and of international relations between 1815 and 1870, prefaced by a brief survey of the French Revolution and Napoleonic Empire. A detailed study of the Restoration, the Revolution of 1848, the Unification of Italy and the formation of the German Empire. Omitted in 1913-1914.

12. **Nineteenth Century History.**—Three recitations a week, second semester. Continuation of History 11; prerequisite, History 11. The international development of the European nations and their international relations since 1870. In this course particular attention is paid to present day questions of European politics. Omitted in 1913-1914.

13. **American Government.**—Three recitations a week, first semester; elective in the junior or senior year. General survey of federal, state and local government in theory and practice. Lecture, text-book, collateral readings in standard authorities, and the preparation of reports upon assigned subjects.

14. **Political Parties in the United States.**—Three recitations a week, second semester; elective in the junior or senior year. A study of the origin, growth and operation of political parties, and of party problems in the United States. This course includes a careful study of party platforms. Text: Woodburn's Political Parties and Party Problems, supplemented by Macy's Party Organization and Machinery, and Bryce's American Commonwealth.

15. **Economics.**—Three recitations a week, first semester; required in the senior year of all the four year courses except the Pharmacy Course. A study of the fundamental laws of economic science. Text-book, supplemented by lectures on special subjects and assigned readings.

16. **Sociology.**—Three recitations a week, second semester; required in the senior year of the Home Economics and General Science Courses. The fundamental principles of social science. Text-book, supplemented by lectures and special reports.

17. **Social Psychology.**—Two recitations a week, first semester; elective in the junior or senior year. A study of those uniformities in feeling, belief, or volition, which are due to social causes; suggestibility; the crowd, mob mind;; fashion; conventionality imitation; custom imitation; rational imitation; interference and conflict; discussion; sane and rational individuality. Text-book, reading and reports.

18. **Rural Economics.**—Three recitations a week, second semester; required in the senior year of the Agriculture Course; elective in

other courses. The economic elements in the production and distribution of agricultural wealth, the agricultural market, determination of price, speculation, business co-operation, credit facilities, ownership and tenancy, farmers' organizations, the farmer and legislation, problems of rural social life, the relation of the farmer to the state. Textbook, lectures, readings and reports.

19. **History of the West.**—Two recitations a week, first semester; elective in the junior or senior year. A study of the settlement of the West and of the influence of the West upon national development from 1815 to 1860.

20. **History of the West.**—Two recitations a week, second semester; elective in the same courses as History 19 of which it is a continuation. A study of the economic and political development of the West, 1860 to the present.

Department of Philosophy

*PROFESSOR RODEHEAVER.

The aim of this department is, in the elementary courses, to give the student some knowledge of the conditions and methods which give the most efficient results in study; in the junior courses, to give a general knowledge of the facts and laws of experience, with special emphasis upon the intimate relations of mind and body and the practical significance of these facts and laws in every day life. The prevailing theories of conduct are studied with chief attention toward encouraging a wholesome view of the leading problems of life which make for the fullest and most efficient living. The study of education may yield large value to every student, but these courses are designed primarily for those who expect to teach.

1. **Logic.**—Two recitation periods a week, first semester; required in the freshman year of the General Science Course. This is an elementary course and consists chiefly of lectures with exercises for developing clearness and accuracy in thinking.

2. **Logic.**—Two recitation periods a week, second semester; required in the General Science Course. A continuation of 1, with the addition of exercises in inductive reasoning based upon psychological observations and analysis.

3. **Psychology.**—Three recitation periods a week, first semester; required in the junior year of the Agricultural, Home Economics and General Science Courses. The structure and function of the nervous

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*On leave of absence during the year 1912-1913.

system. Discussion of the different phases of mental activity, especially their origin and function. Class room discussions based upon Angell's Psychology, supplemented by assigned readings, lectures, demonstrations, and experiments.

4. **Ethics.**—Three recitation periods a week, second semester; required in the junior year of the Home Economics and General Science Courses; prerequisite, Philosophy 3. The beginning and development of different views of the moral life; psychological basis; theories of the moral standard; institutions of the moral life; practical problems in private and public morality. Course consists of lectures, discussions, and reports on assigned topics; based upon such texts as Dewey and Tufts, Paulsen, Bowne, and Mackenzie.

5. **History of Education.**—Three recitation periods a week, first semester; elective in the senior year; prerequisite, Philosophy 3. Development of aims and methods of education from primitive peoples to modern times, noting their relation to contemporary philosophy and social life. Lectures, discussions and reports on assigned topics; based upon Monroe, Davidson, Kemp and others.

6. **The Principles of Education.**—Three recitation periods a week, second semester; elective in the senior year; prerequisite, Philosophy 3 and 5. The aim of this course is to give the student a knowledge of psychological principles as applied to education, rather than to study details of methods. An effort is made to reveal the essential nature and function of education and the kind of technique necessary to secure the best results in teaching. Lectures, discussions and reports; based upon texts of Ruediger, Bagley, Hall, O'Shea and others.

Department of Mathematics

PROFESSOR BROWN; MR. EWING.

The general work of this department is planned to cultivate habits of systematic and accurate thinking, as well as facility in making calculations. Independent effort is encouraged to the greatest possible extent, the solutions of problems and original demonstrations forming an important part of each course.

The class work in general astronomy is supplemented by the use of instruments in the observatory. These include a six-inch equatorial telescope, a transit instrument, a sidereal clock and a chronograph.

For Mathematics 1 to 6, see the preparatory department.

7. **Solid Geometry.**—Three recitations a week, first semester; required in the Engineering Courses, optional in the General Science

Course, freshman year; prerequisite, Mathematics 6. All the important principles of the subject will be covered. Text: Sanders' Plane and Solid Geometry.

8. **College Algebra.**—Five recitations a week, second semester; required in the Engineering Courses, optional in the General Science Course, fresman year; prerequisite, Mathematics 4. Graphs, permutations and combinations, complex numbers, elementary theory of equations, determinants, partial fractions.

9. **Plane Trigonometry.**—Three recitations a week, first semester; required in the freshman year of the Engineering Courses; optional in the freshman year of the General Science Course; prerequisite, Mathematics 6. The elementary notions of trigonometry; solutions of plane triangles.

10. **Plane and Spherical Trigonometry.**—Two recitations a week, second semester; required in the Engineering Courses, optional in the General Science Course; freshman year; prerequisite, Mathematics 8 and 9.

11. **Analytic Geometry.**—Five recitations a week, first semester; required in the Engineering Courses, sophomore year; prerequisite, Mathematics 8 and 9.

12. **Calculus.**—Five recitations a week, second semester; required in the sophomore year of the Engineering Courses; prerequisite, Mathematics 11. Continuation of Mathematics 11.

13. **Analytic Mechanics and Calculus.**—Five recitations a week, first semester; required in the junior year of the Engineering Courses; prerequisite, Mathematics 12. The application of analytic geometry and calculus to the solution of mechanical problems.

14. **Analytic Mechanics**—Three recitations a week, second semester, required in the junior or senior year of the General Science Course; continuation of 13.

15. **General Astronomy.**—Three recitations a week, second semester; required in the junior or senior year of the General Science, Home Economics and Engineering Courses; prerequisite, Mathematics 6. The text will be covered and frequent use made of the instruments. Text: Young's Manual of Astronomy.

Department of Physics

PROFESSOR MATHEWS; MR. HOY.

From the fact that physics is one of the foundation sciences and that a knowledge of its laws is necessary to every student seeking a scientific training, the department has been well fitted with rooms and appliances to provide this training. Its lecture rooms are well provided with arm-rest opera chairs.

The laboratories are well lighted and provided with non-vibratory piers. Water, gas and electricity are furnished for the recitation rooms and the dark room and laboratories.

This department is housed in the engineering and physics building. Its facilities and equipment for instruction are equal to those of any in the Northwest.

The laboratory equipment includes such expensive pieces as analytical balances, laboratory clock making electrical contact every second, cathetometer, spectroscopes, microscopes, photometers, stereopticon (arc light), standard cells, dynamos, electrometers, transformers, galvanometers, storage batteries, induction coils, ammeters, magnetometers, voltmeters, wattmeters, Wheatsone bridges, polariscope, quadrant electrometer, Kelvin's current balances, lathe and wireless telegraphy and X-Ray apparatus.

The following subjects are offered in this department:

For Physics 1 and 2, see the preparatory department.

3. **General Physics.**—Three recitations and two laboratory periods a week, first semester; required in the sophomore year of the Engineering Courses, elective in the sophomore, junior or senior year of various other courses. Young ladies following the General Science Course may elect Home Economics 4 and 7 instead of Physics 3; prerequisite, Physics 2 and Mathematics 9. Mechanics of solids and fluids, heat and sound with numerous examples. Exact measurements of mass, distance, time, calorimetry, nature and velocity of sound, etc.; study of electrical and magnetic fields. Texts: Spinney; Austin and Thwing.

4. **General Physics.**—Three recitations and two laboratory periods a week, second semester; required in the same courses as Physics 3; young ladies pursuing the General Science Course may elect Home Economics 3 instead of Physics 4; prerequisite, Physics 3. Electricity and its applications in the dynamo, motor and transformer, electric light and study of electrical and magnetic fields; refraction and reflection of light, interference and color, laboratory work on topics mentioned. Texts; Spinney; Austin and Thwing.

5. **Advanced Physics.**—Four recitations and one laboratory period a week, first semester; elective in the junior or senior year; prerequisite, Mathematics 12 and Physics 4. Mechanics, kinematics, kinetics, mechanics of fluids and heat and its application; magnetism, static electricity, electrolysis, laboratory work and measurements covering topics mentioned. Texts: Nichols and Franklin, Vols. 1 and 2; Nichols' Laboratory Guide.

6. **Advanced Physics.**—Four recitations and one laboratory pe-

riod a week, second semester; elective in junior or senior year. Induction currents, primary batteries, electric oscillations and waves, nature and motion of sound, physical theory of music, nature and propagation of light, refraction, reflection, interference, color and polarization; laboratory work. Texts: Nichols and Franklin, Vol. 3; Nichols' Laboratory Guide.

7. **Heat.**—Three recitations and one laboratory period a week, first semester; elective in the senior year; prerequisite, Physics 5. Sensibile and latent heat, dynamical generation of heat, thermometry, calorimetry, specific heat, atomic and molecular heat capacities, evaporation, ebullition, vapor densities, cooling, diathermacy, conductivity and dynamical equivalent of heat, laboratory work covering topics mentioned. Text: Preston's Theory of Heat; Maxwell's Heat.

8. **Light.**—Three recitations and one laboratory period a week, second semester; elective to the same classes as Physics 7, of which it is a continuation. Shadows and images, spectrum, velocity of light, color, phosphorescense, flourescence, diffraction, measuring waves, prisms and polarization; laboratory work. Text: Preston's Light.

9. **Physics of Heat.**—Two recitations a week, second semester; required of young ladies in the first year of the Normal Course in Home Economics and all Freshman in the regular course in Home Economics; prerequisite, Mathematics 4. Theory of heat, thermometry, calorimetry, transference and conductance of heat, etc. Especial emphasis is laid on practical applications of heat.

Department of Botany and Plant Pathology

PROFESSOR MICHEL; MR. BISBEY.

In the work of this department, the structure, physiology, classification and pathology of plants, and the fundamental problems of cell structure and functions are studied, as well as the direct application of botanical science to pharmacy and agriculture. This work also helps to serve as foundation for courses in forestry, plant breeding, plant pathology, etc.

The instruction aims primarily to develop the powers of accurate observation and the ability to draw correct conclusions.

Both the elementary and advanced laboratories are well equipped with microscopes and other necessary apparatus for carrying on advanced or original research work. The department also has fairly complete and convenient herbaria of the flowering plants and fungous flora of the northern United States.

1. **Principles of Botany.**—Two lectures and three laboratory periods a week, first semester; required in the freshman year of the Normal Course in Home Economics. This course is intended primarily for such students as can devote but one semester to the study of botany. A general survey of the plant kingdom with emphasis upon such plants as are of greatest economic importance.

2. **General Botany.**—Two lectures or recitations and three laboratory periods a week, first semester; required in the sophomore year of the Agriculture, Home Economics and Pharmacy Courses, elective in the sophomore, junior or senior year of various other courses; prerequisite, the work of the freshman year. The general principles of biology as illustrated by plants; a study of the life histories of types of plants, including their physiology and systematic relations.

3. **General Botany**—Two lectures or recitations and three laboratory periods a week, second semester; required and elective in the same courses as Botany 2, of which it is a continuation; prerequisite, Botany 2.

4. **Plant Physiology.**—Two recitations and three laboratory periods a week, second semester; required in the junior year of the horticulture and plant pathology group, Agriculture Course; elective in junior or senior year; prerequisite, Botany 2 and 3.

5. **Mycology.**—Three laboratory and two lecture periods a week, first semester; required in the same class as Botany 4; prerequisite Botany 2 and 3. Morphology and classification of the fungi. The plant diseases of economic importance are especially emphasized, together with the methods of prevention or of treatment.

6. **Advanced Mycology.**—Elective in the junior or senior year. The course will be given to such students as have had botany 5 or equivalent work. The laboratory hours and the recitations to be arranged with the instructor. The number of credits will depend upon the amount of time given to the work, which will consist of individual laboratory work and assigned readings.

7. **Taxonomy of Pteridophytes, Gymnosperms and Angiosperms.**—Five recitations and laboratory periods a week, second semester; elective in the junior or senior year; prerequisite, Botany 2 and 3. The systematic arrangements and classification of the ferns and their allies, and especially of the higher flowering plants. The structure and relationships of weeds, grasses and grains, and other plants of economic importance will be emphasized in the course.

8-9. **Cytology and Botanical Microtechnique.**—Five recitations and laboratory peeriods a week, first and second semesters; elective in the senior year; prerequisite, Botany 2, 3 and 4. Lectures,, recitations and laboratory work on the general activities, reproduction and nutrition of the plant cell. Methods of imbedding, sectioning and staining.

10. **Heredity**—Three recitations a week, second semester. The course will be given in connection with the Department of Horticulture, which will give practical work along the line of plant heredity. For a fuller description refer to the same course in horticulture. Required in junior year of Horticulture and Plant Pathology, and Agronomy groups.

11. **Parmacognosy.**—Five recitations and laboratory periods a week, second semester; required in the first year of the Pharmacy Course; prerequisite, Botany 1. The sources, characteristics, histology, identification, etc., of the common drugs.

Entomology and Nature Study

PROFESSOR SEVERIN.

The work of this department is conducted by means of lectures, recitations, laboratory and field work. The student is thus afforded not only an opportunity to gain familiarity with the principles and theories discussed in the class room, but is also encouraged to put these theories to the test and verify the principles in the field. In the way of illustrative material, in addition to the general museum and the entomological collections, there are a large number of lantern slides, microscopic slides, and alcoholic and formalin preparations. The department is well provided with all the apparatus necessary for biological work.

For Entomology 1 and 2, see the preparatory department.

3-4. **General Entomology.**—One recitation and two laboratory periods a week during first semester and one recitation and one laboratory period during the second semester; reqquired in the sophomore year of the Agriculture Course; elective in the junior or senior year of the General Science Course. A general course dealing with the anatomy, physiology, embryology, behavior, classification and life history of insects. The work of the second semester will be devoted in part to a discussion of some of the more important insect pests and methods of controlling them. This course is designed as an introduction to the practical work in economic entomology offered in courses 5 and 6 and to the systematic work offered in courses 7 and 8.

5-6. **Economic Entomology.**—One lecture period and one laboratory period a week throughout the year; elective in the junior or senior year; prerequisite, Entomology 3 and 4. A detailed study in the field and lecture room of the chief economic species of insects with a study of insecticides and spraying machinery. The student will be given an opportunity of preparing sprays and gases used in combatting insect pests and demonstrations will be offered in the practical application of the same.

7-8. **Systematic Entomology.**—Two laboratory periods a week throughout the year; elective in the senior year. This course, while primarily entomological, is designed to be of general use to students of biology. It has for its object not only to get the student acquainted with the more common forms of insect life, but is also designed to give the student an idea of the aims and methods of classification. Each student will be required to do his own collecting and mounting of insects; the collections of the department will be available to the student at all times for reference work.

9. **Household Insects.**—Two lectures a week, second semester; elective in the senior year. The household insects and related animals that are of economic importance will be especially emphasized in this course, together with methods of extermination.

10. **Insects and Disease.**—Two lectures a week, first semester; elective in the junior or senior year. The greater share of the semester will be devoted to a discussion of the diseases which are disseminated through the insects and which affect man.

11. **Ornithology.**—One lecture and one laboratory period or field excursion a week, second semester; elective in the junior or senior year. The lectures will deal with the various phases of bird life; the laboratory periods are designed to acquaint the student with the anatomy of various types of birds, while the field work will be devoted to studying the birds as they are found in the field, particularly with reference to their field identification, feeding and nesting habits. Each student should provide himself with a field or opera glass and a copy of Florence Merriam Bailey's Handbook of Birds of Western North America.

12. **Nature Study.**—Three recitations a week, first semester; elective in the junior or senior year. This course is intended primarily for those who expect to teach in the public or high schools. Its object will be to give the nature-point of view and the course will be a discussion of methods and materials as well as an elementary science treated from the biological side.

13. **Animal Behavior.**—Two recitations per week, first semester, elective in the junior or senior year. The evolution of animal behavior forms the principal theme of this course and is of much significance for the study and correct understanding of human psychology and sociology. This course willl be useful to those engaged in educational work.

Department of Zoology

PROFESSOR MILLER.

Students of Agriculture and Domestic Science as well as those of General Science, should have a thorough foundation in the principles of Animal Biology, and this is what the department aims to accomplish. Besides this it trains the students in methods of zoological research and technique, and attempts to develop original and independent thought.

Students who contemplate the study of human or veterinary medicine will find that it is to their advantage to elect advanced work in the department. These professions are biological sciences and one should have a most thorough training to enter them. For those courses which are the so-called pure scientific courses in medicine credit is usually given and the student is privileged to elect other work in the professional school.

The department is well equipped with apparatus for the courses offered. Microscopes, type specimens, skeletons, for the general courses. Microtomes, ovens, glassware, stains and reagents for the advanced work furnish as excellent equipment as one would wish. There is a small but well chosen working library of about two houndred volumes.

For Zoology 1 and 2, see the preparatory department.

3-4. **General Zoology and Physiology.**—Two recitations and three laboratory periods a week, first and second semesters; required in the sophomore or junior year of the Agriculture Course, and in the junior year of the Home Economics Course; prerequisite, Art 1 and all the subjects below the sophomore year.

a. **General Zoology.**—A study of type forms of invertebrates and vertebrates, and the elements of histology and embryology. Texts and references: Hertwig's Manual of Zoology; Parker and Haswell's Text-book of Zoology; Lange's Comparative Anatomy.

b. **Physiology.**—This subject continues throughout the last half of the second semester. Lectures, recitations, demonstrations, and required readings in advanced human physiology. Texts and references; Thornton's Human Physiology; American Text-book of Physiology; Landois' Human Physiology; Verworn's General Physiology.

Note—Students of Agriculture are required to take Veterinary 7 in place of Human Physiology during the last half of the second semester.

5-6. **Anatomical Methods.**—Three recitations and two laboratory periods a week, first and second semesters; required in the second year of the two-year Pharmacy Course. This subject is intended to acquaint students preparing for the study of medicine with anatomical nomenclature, and methods of dissection. It includes the study of the anatomy of the cat, with special reference to Physiology. Texts: Davidson's Mammalian Anatomy; Riegart and Jennings' Anatomy of the Cat; Morris' Human Anatomy.

7-8. **Histology**—Five recitations and laboratory periods a week, first and second semesters; optional with Bacteriology in the junior year of the veterinary group, Agriculture Course; prerequisite, Zoology 3 or 5. The structure of the cell and the tissue elements together with microtechnique during the first semester; vertebrate organology, the microscope structure of vertebrates during the second semester. Texts and references: Bohm-Davidoff's Text-Book of Histology; Wilson's The Cell; Stohr's and Szymonowiczs-MacCullum's Text-Books of Histology.

9-10. **Embryology.**—Five recitations and laboratory periods a week, first and second semesters; elective in the junior or senior year, prerequisite, Zoology 3. This course is designed to meet the needs of those who desire to gain an insight into embryological problems. Besides the study of the development of a number of forms, both vertebrate and invertebrate, the work will include the study of the organization, maturation and fertilization of the egg. Texts and references: Hertwig's Text-book of Embryology; Foster and Balfour's Elements of Embryology, Korscheidt and Heider, Text-book of Comparative Embryology.

11-12. **Comparative Anatomy of the Vertebrates.**—Five recitation and laboratory periods a week, first and second semesters; elective in the junior or senior year of the General Science Course; prerequisite, Zoology 5 or 7. An elective designed for those students especially interested in anatomy and zoology. Text and references: Wiedersheim's Comparative Anatomy; Flower's Osteology of the Mammalia; Jayne's Mammalian Anatomy; Huxley's Manual of the Anatomy of the Vertebrate Animals.

Bacteriology.—See Department of Veterinary Medicine, course 6.

Department of Chemistry

PROFESSOR SHEPARD; ASSOCIATE PROFESSOR DUNBAR;
MR. YOUNGBERG.

This department is equipped with the latest and most approved appliances for instruction.

The student upon beginning the subject is assigned a desk in the main laboratory. This desk is supplied with a set of reagent bottles, gas and water fixtures. In addition to these a supply of all needful apparatus, such as test tubes, generating flasks and the like are furnished. The main laboratory, which is located on the first floor of the Chemistry and Pharmacy Building, accommodates sixty-four students all working at the same time.

Upon completing the necessary elementary work the student now finds a quantative laboratory at his disposal. This laboratory accommodates twenty students working together. It is supplied with all quantitative apparatus, such as precipitation flasks, desiccators, lamps and crucibles.

In connection with the quantitative laboratory is a balance room supplied with high-grade Troemner quantitative balances. The work is so planned that the student has laboratory work together with didactic instruction throughout the course.

The experiment station laboratories are also located at this College, and their costly and technical appliances and the practical work in constant progress there are within reach for instruction.

1. **Elementary Inorganic Chemistry.**—Five recitations and laboratory periods a week, first semester; required in the freshman year of all the courses leading to degrees;; prerequisite, Physics 2. History of chemistry, elements, compounds, symbols, valence, atomic weights, chemical equations, oxygen, hydrogen, nitrogen, chlorine, bromine, flourine, iodine, sulphur, phosphorus, silicon and their compounds. Bases, salts, acids, and alkalies. The metals and their compounds., separation of metals, groups of metals and uses of their compounds. Detection of the non-metallic elements and their compounds. Text: Shepard's Elements of Chemistry.

2. **Elementary Organic Chemistry.**—Five recitations and laboratory periods a week, second semester; required in the freshman year of all the courses leading to degrees; prerequisite, Chemistry 1. The principal classes of organic compounds, the characteristics and properties of each class and the uses of their various compounds. Detection of principal metals and the working of a list of unknowns; the detection of principal organic compounds. Text: Shepard's Elementary Organic Chemistry.

3. **Quantitative Chemistry.**—Five recitations and laboratory periods a week, first semester; required in the sophomore year of the Agriculture and Pharmacy Courses; elective in the sophomore, junior and senior years; prerequisitee, Chemistry 1 and 2. The apparatus and its uses. Explanations of methods of quantitative determinations and reports of students' analyses. The quantitative analyses of typical

chemical compounds, e. g., calcite, magnesium sulphate, metallic ores, coal, etc. Text: Olsen's Quantitative Chemistry.

4. **Chemistry and Physiology of Foods.**—Five recitations and laboratory periods a week, second semester; required in the sophomore year of the Home Economics Course and in the junior year of the veterinary group, Agriculture Course; elective in the junior or senior year; prerequisite, Chemistry 1, 2 and 3. Food nutrients, chemical characteristics and offices of same, physiology of same, metabolism, balanced rations, standard dietaries. Study of food adulterations. Experiments in digestion of foods, offices of digestive secretions. Detection of adulterants, coloring matter and preservatives.

5. **Agricultural and Sanitary Analysis.**—Five recitations and laboratory periods a week, first semester; elective in the junior or senior year; prerequisite, Chemistry 1, 2 and 3. Analysis of foods, feeding stuffs, dairy products, water, etc. Use and analysis of disinfectants, germicides, etc. Lectures, Official Methods American Association of Official Agricultural Chemists.

6. **Agricultural Chemistry.**—Three recitations a week, second semester; required in the junior year of the animal husbandry group, Agriculture Course; elective in the junior or senior year; prerequisite, Chemistry 1, 2 and 3. Text: Johnson's Agricultural Chemistry.

7. **Industrial Chemistry.**—Three recitations a week, first semester; elective in the junior or senior year; prerequisite, Chemistry 1, 2 and 3. Chemistry of manufacturing glass, paper, sugar, petroleum, explosives, acids, water, air, mortars, pigments, photography alkalies and gases. Demonstrations of examples including water pollution, purification, artificial illumination, petroleum, testing fermentation, air contamination, disinfection, ventilation, bleaches and dyeing. Text: Thorpe's Industrial Chemistry.

8. **Household Chemistry.**—Five recitation and laboratory periods a week, first semester; required in the sophomore year of the Home Economics Courses; prerequisite, Chemistry 2. Students in four year Home Economics Course intending to specialize in Chemistry should take Chemistry 3 instead of Chemistry 8. This course includes the chemistry of cooking, baking, fermentation, cleansing, water, soaps, inks, stains, disinfectants, preservatives, etc., as applied to good housekeeping in every day life. Lectures, notes and references.

9. **Organic Chemistry.**—Three recitation and two laboratory periods a week, first semester; elective in the junior or senior year. The Aliphatic compounds. Chemical theory and principal compounds of the paraffine series. The preparation of typical members. Typical analytical methods. Text: Perkins and Kipping.

10. **Organic Chemistry.**—Three recitation and two laboratory periods a week, second semester; a continuation of Chemistry 9. Theory, structure, preparation and analysis of the Benzenes, Naphthalenes, Anthacenes, Pyridines, Alkaloids, Amino Acids, Terpenes, Dyes, etc.

11. **Organic Chemistry.**—Three recitations and two laboratory periods, second semester; required in the sophomore year of the Agricultural Courses; prerequisites, Ch. 1, 2 and 3. An elementary course in Organic Chemistry. Includes the general theories, and typical reactions of the aliphatic and aromatic compounds. Preparatory. to the practical application of this knowledge in advanced Agricultural work. Text-book: Remsen's Organic Chemistry.

12. **Elementary Chemistry as Applied to the Home and Farm.**—Five months course, third year students in School of Agriculture. Not open to regular students in four year courses. A brief study of the principal elements concerned in Agriculture. Brief discussions of germination, fertilizers, insecticides, disinfectants, cleansing agents, paints, preservatives. Feeds, rations, etc. Two recitations and two laboratory periods per week. Text: Snyder's Chemistry of Plant and Animal life, lectures and lotes.

Department of Pharmacy

PROFESSOR WHITEHEAD.

PURPOSE OF THIS COURSE.

The purpose of this department is to train young men and women in the science of pharmacy. The passage of the Food and Drug Act by Congress, and similar legislation by our own state has placed very great importance on pharmaceutical education. Under the present commercial conditions it is nearly impossible for one to prepare himself to meet the requirements of these laws except by taking a thorough college course.

The demand for educated pharmacists is becoming greater every day. In fact, even at present, some of the states will not allow one to take the examination for registration unless he is a graduate of a reputable school. This department meets both the preparatory and professional requirements of the New York Educational Department with which it is registered in full. It is also a member of the American Conference of Pharmaceutical Faculties.

Graduates from the Department of Pharmacy in the State College have been uniformly successful in passing the State Board examinations, only one having failed to meet the requirements of the Board during the past sixteen years.

ENTRANCE REQUIREMENTS.

Among the regulations of the South Dakota State Board of Pharmacy is the following:

"Hereafter during the year 1906, all applicants appearing for registration by examination, must present with their application an affidavit showing that they have completed a course of study (or its equivalent) of one year high school work. In 1907, two years; in 1908, three years; and in 1909 the presentation of a high school diploma will be required. These requirements were recommended by the Association in annual meeting at Canton in 1903. It is therefore expedient that all proprietors doing a drug business in this state acquaint their clerks and apprentices with the above rule."

In order to harmonize our work with this regulation we require the completion of four years of high school work or its equivalent. While this is a much higher requirement than most schools demand we feel that the results have justified our judgment, for at present there is but one of our graduates who has taken the state examination who is not registered.

This line of work offers many inducements to young men. The requests of the druggists of the state for our graduates are far in excess of the supply and the pure food and drug laws have opened up a new field for young men who are competent drug and food assayists.

The students finishing the two-year course in Pharmacy may receive the degree of Pharmacy Graduate (Ph. G.). This is the only course of the kind offered in the state and receives the hearty commendation of the State Board of Pharmacy. The two years of pharmacy work may all be applied towards the degree of Bachelor of Science. For the additional subjects required, see Pharmacy Schedule. This longer course is recommended to those who intend to take up the study of medicine or dentistry, or who wish to prepare for teaching the sciences in the high schools of the state.

The fees for work in this department are the same as for other college work, i. e., six dollars tuition and two dollars for each laboratory period per semester.

With the exception of 10 the following subjects are all required for both the degree of Pharmacy Graduate and the degree of Bachelor of Science in Pharmacy.

1. **Pharmacy Latin.**—Five recitations a week, first semester, first year. The subject is taught with special reference to its application in pharmacy. The vocabulary employed is strictly pharmaceutical. Text: Crothers and Biers, Elements of Pharmacy Latin.

2. **Materia Medica.**—Five recitations a week, first semester, first year. Medicinal properties, doses and poisonous effects of the various medicines, together with the antidotes which the pharmacist may be required to administer in an emergency, will receive full and careful treatment. Text: Potter's Materia Medica, Pharmacy and Therapeutics.

3. **Materia Medica.**—Five recitations a week, second semester, second year. Continuation of Pharmacy 2.

4. **Pharmacy.**—Five recitations a week, first semester. senior year; prerequisite, Chemistry 2. Forms and uses of pharmaceutical apparatus, weighing by apothecary and metric systems, specific gravity of solids and liquids, heating apparatus, determination of boiling and melting points, distillation, comminution, solution, precipitation, filtration, crystalization, percolation, and study of official medicines, waters, syrups, mucilages, mixtures, spirits, elixirs, liniments, infusions,, tinctures, fluid extracts, oleoresins and extracts. Text: Remington's Practice of Pharmacy.

5. **Pharmacy Laboratory.**—Three laboratory periods a week, first semester, second year. Preparation of waters, syrups, mucilages, etc., mentioned in Pharmacy 4, must be taken up in connection with it. Text: Remington's Practice of Pharmacy.

6. **Pharmaceutical Problems.**—Two recitations a week, first semester, second year. Relationship of metric, apothecary, and imperial systems of weights and measures, specific gravity, specific volume percentage problems, concentration and dilution, alligation and chemical problems. Text: Olberg's Pharmaceutical and Chemical Problems.

7. **Pharmacy.**—Five recitations a week, second semester, second year; prerequisite, Pharmacy 4 and 5. Official inorganic salts and their compounds, solutions, emulsions, powders, pills, ointments, and plasters; reading prescriptions. Texts: Remington's Practice of Pharmacy, Ruddiman's Incompatibilities in Prescriptions.

8. **Pharmacy Laboratory.**—Five laboratory periods a week, second semester, second year; prerequisite, Pharmacy 5 and 6. Compounding of prescriptions, making of inorganic salts, solutions, emulsions, powders, pills; reading and compounding prescriptions. Must be taken same term as Pharmacy 7. Texts: Remington's Practice of Pharmacy, Ruddiman's Incompatibilities in Prescriptions. Olberg's 1,500 Prescriptions, National Formulary.

9. **Volumetric Analysis and Drugs Assaying.**—Five recitations and laboratory periods a week, second semester, second year; also elective in the sophomore year of the General Science Course; prerequisite, Chemistry 3. There are at present in the U. S. Pharmacopoeia 149 volumetric and 35 gravimetric assays. In this subject we endeavor to give enough of this work to enable a student to make any of these assays in an intelligent and accurate manner. The students are required to make their own volumetric and indicator solutions. A short course in urine analysis is given in connection with this work. Texts: U. S. Pharmacopoeia, Schimpf's Volumetric Analysis, Lyons Pharmaceutical Assaying; lecture notes by the teacher.

10. **Chemical Toxicology.**—Five laboratory periods a week, first semester; elective in the junior or senior year of the Pharmacy and General Science Courses; prerequisite, Pharmacy 3 and 9. Separation and identification of poisons. Texts: Reeses' Medical Jurisprudence and Toxicology, Authenrieth's Detection of Poisons, Their Effect and Detection, Blyth's Poisons, Their Effects and Detection.

Department of Music

PROFESSOR HEDGE; ASSISTANT PROFESSOR PETERSON; MR. CHRISTENSEN; MISS ALLEN; MISS CASPARI.

PURPOSE OF THE DEPARTMENT.

The purpose of this department is to give the very best musical training possible at a minimum cost, without sacrificing the high standards of the institution.

It is generally recognized that few branches of study require greater and broader training of the mind than does the study of music, and not only cultivation of the mind, but of the emotions as well. The emotional is a phase too often neglected in education, although it has so important a part in life. In music one must learn to control—to keep in the background—one's own emotions, in order to give true expression to the thoughts of the master minds which have so wonderfully woven the beautiful harmonies.

A knowledge of music also serves to give proper balance to an education, the aesthetic side of which is too often neglected.

Our course is arranged with a view to supplying the needs more especially of those who wish to broaden themselves and to make it a part of their general education.

ADVANTAGES.

Opportunities are given for the hearing of the best music during the school year, which is a most important adjunct to proper musical education. These occasions include our high-grade faculty concerts, and an Artist's course which consists of recitals by some of the best musicians of the country. It is also planned to bring one of the Symphony Orchestras here for a concert each season.

In the Artist's Course of the past season the following artists have been presented: The Zoellner String Quartette of Brussels, Belgium; Alexander Wurzburger, pianist; Gustaf Holmquist, basso and Mme. W. M. Thurston, contralto; and Henry J. Williams, harpist of the Minneapolis Symphony Orchestra, in addition to two concerts by the Choral Union which rendered Coleridge-Taylor's "Hiawatha's Wedding Feast" and Gounod's "Redemption."

In addition to these advantages, Prof. Hedge will train and direct, free to all College students and to outside singers, a choral union, a chapel choir of twenty-four picked voices, a men's glee club, and a women's glee club.

Professor Christensen will conduct the College bands and orchestra, both of which have already made an excellent reputation throughout this part of the country.

The Men's Glee Club and Orchestra have made tours during the last three years through different parts of the state and have met with great enthusiasm and success.

Recitals are also required of all students at various times during the year and attendance is obligatory upon every student in this department.

CONDITIONS FOR ENTRANCE.

The candidate for admission to the College must be at least fourteen years of age and of good moral character, and must have completed the work of the public schools as far as the ninth grade.

Students of music who have not completed the requirements for entrance to the freshman class will be required to take at the same time two text book subjects of the preparatory course.

COURSES.

Three courses are available for students of this department:

1. Preparatory.
2. Academic.
3. Collegiate.

The Preparatory Course is open to all beginners and consists of rudiments, tone production, formation of correct habits of thought and execution, etc.

The Academic Course is for those who do not desire to complete the full course, but only to become fairly proficient as performers and to secure a general knowledge of the fundamental principles of the art. At the completion of this course, the student is awarded a certificate of proficiency or merit.

The Collegiate Course leads to graduation and consists of three years' work. To complete this course, the student must have secured a thorough knowledge of harmony, theory and history as outlined in these respective courses. Upon its completion, the student will be given a diploma in music provided the entrance requirements to the freshman class have been completed.

VOICE.

Prof. Hedge, Misses Allen and Noggle.

The method used is the correct placing of the voice so that the pupil can produce with equal ease and firmness and with an even quality, all tones from the lowest to the highest. The mechanism of the voice is explained as far as necessary.

In correct breathing, correct position in singing and chest development lies the foundation of voice building.

The course of instruction is based on the Italian School of training the voice. The fundamental principle of the old Italian teachers was to poise the voice. From this comes the even scale, the range, the power to sustain, and the agility, all of which combined form the "bel canto" or beautiful singing.

Special attention is paid to the needs of each individual, with exercises and studies carefully selected according to the requirements of each voice.

Study will be made of the interpretation of songs and ballads chosen from the best of the German, Italian, French, English and American schools, with strict attention to phrasing, enunciation and rhythm.

Voice Outline.

First Year.	Second Year.	Third Year.
Vocal Culture.	Vocal Culture.	Vocal Culture.
Piano.	Piano.	Song Literature.
Sight Reading.	Harmony.	Harmony.
Musical History.	Languages	Oratorio, Opera-Airs.
Languages.	Ear Training.	Hymnology and Church Music.
Songs.	Songs.	
		Theory.

First Grade.

The formation of tone; elementary exercises for the development of the voice and art of respiration; Seiber's thirty-six eight measure vocalises, exercises in articulation and art of phrasing; easy and pleasing songs in English.

Second Grade.

Exercises in scales, precision and flexibility; studies by Lutgen, Concone, Tosti, Vaccai; songs from German and English composers.

Third Grade.

Exercises in scales, precision and flexibility continued; advanced vocalization; songs by Schubert, Schumann, Franz, Brahms, and arias and duets from operas.

Fourth Grade.

Exercises continued as above with studies in bravoura singing. Exercises and solfeggios used, classified according to difficulty, are those of Concone, Marchesi, Lamberti and Brambilla. Recitatives and arias from the standard oratorios and operas.

For the Diploma in vocal music, the pupil must complete the courses in harmony, theory and history of music, ear training and sight reading, and must also complete the work of the academic course in instrumental music.

PIANO.

MR. PETERSON, MISSES ALLEN AND CASPARI.

The study of piano is conducted with a view to balancing more perfectly the training of the mind and the cultivation of technical power. Too often stress is placed upon one or the other, more frequently the latter, to an extreme. Technic is but the means to an end: i. e., the correct interpretation of the masters, and should be so considered.

Special attention is directed from the very beginning to the student's habit of thinking. This is done largely through the method of harmonic analysis and memorizing in an orderly and concentrative manner.

The musical side of the students' personality is brought into action through intelligent and artistic interpretation and its development is materially assisted by their having the opportunity to hear good music, artistically rendered as often as possible.

In technical development, special work is given for the acquisition of finger strength and independence, a correct position of the hand and purity of tone. Since it is now generally believed that the purest and sweetest tones are secured from direct finger action, this is much emphasized throughout the course.

These fundamental ideas are associated with the principle, the understanding of which is so necessary to the successful teacher, that effort should continually be made to render the study of the piano less irksome and as intensely interesting to the student as it can be made.

Piano Outline.

First Year.	Second Year.	Third Year.
Piano.	Piano.	Piano.
Harmony.	Harmony.	Harmony.
Musical History.	Violin or Voice.	Violin or Voice.
Musical Literature and Analysis.	Ear Training.	Ensemble Playing.
	Theory.	

Preparatory Course.

Studies from Czerny, Gurlitt, Mac Dougall, Bach and other composers; sonatinas from Clementi, Kuhlau, Gurlitt, etc.; the easier sonatas of Haydn and Mozart, and the less difficult composition of Schumann, Grieg, Mac Dowell, Schubert, Chopin and others.

Collegiate Course.

First Year.—Etudes of Heller, Czerny, Foote, Loeschhorn; selections from the Bach suites and sonatas of Beethoven, Haydn and Mozart; compositions of Mendelssohn, Schubert, Chopin, Schumann, Grieg, MacDowell, etc.

Second Year.—Studies from Bach, (inventions and suites), Heller, Czerny, and others; sonatas of Mozart and Beethoven; solos selected from Weber, Chopin, Mendelssohn, Schumann, Grieg, MacDowell, Liszt and others; also some of the easier concertos of Mendelssohn, Reinecke, Weber, Mozart, etc.

(For examination last year, students played a movement from Weber's Concerto in C Major, a Bach invention or prelude and an expression piece selected from some of the composers of the Romantic School.)

Third Year.—Studies from Bach (Well Tempered Clavichord), Chopin, Liszt, Foote; sonatas of Schubert, Beethoven, Grieg, Weber, Chopin; solo works of Mendelssohn, Weber, Schumann, Liszt, Rubinstein, Grieg, MacDowell and the modern French, Russian and American composers; concertos of Beethoven, Rubinstein, Chopin, Schumann, Saint Saens, etc.

VIOLIN.

MR. CHRISTENSEN.

PREPARATORY COURSE.

Position, tone production on open strings, most important rudiments of musical theory in general, Hohmann's Violin School, Book 1; duets by Gebauer and Mazas; miscellaneous solos with piano accompaniment.

COLLEGIATE COURSE.

First Year.—Two octave scales in all major and minor keys; Sevcik, Opus 1, Book 1, Violin Technic; study of the positions, Hohmann, Book IV; studies by Wohlfart, Opus 45, Books I and 11; miscellaneous solos with piano accompaniment.

Second Year.—Three octave scales in all major and minor keys; Sevcik, Opus 7, Violin Technic, Books I and II; Sevcik's ''Four Thousand Bowings''; Kayser's Etudes, Opus 20, Books I and II; Mazas, Opus 36, Book I, Violin Studies; solos with piano accompaniment by De Beriot, Wieniawski, Mendelssohn, etc.

Third Year.—Sevcik, Opus 7, Books I and II; Sevcik's ''Four Thousand Bowings''; Schradieck's TechnicalStudies; Mazas Studies, Opus 36, Book II; etudes by Dont and Kreutzer, solos by Wieniawski, Vieuxtemps, Mendelssohn, Bruch, Godard, etc; concertos by Viotti, De Beriot, etc.

VIOLIN OR VIOLONCELLO OUTLINE.

First Year.	Second Year.	Third Year.
Violin or Cello.	Violin or Cello.	Violin or Cello.
Harmony.	Harmony.	Harmony.
Piano.	Piano.	Ensemble Playing.
Musical History.	Musical Literature and Analysis.	
	Ear Training.	
	Theory.	

HARMONY.

MR. PETERSON.

In the study of harmony, the older ideas of harmonizing a given melody or figured bass are discarded as far as possible. The student is taught from the beginning to write his own melodies for harmonization, thus, while stimulating his originality and inventive ability, taking from the study of harmony that mechanical and superfluous aspect so often too apparent to the pupil, and firmly establishing the proper relation of the study of music.

In the first year (collegiate) the student receives ear training and the rudiments of harmony, including intervals, scales and chord formation, chords and their tonal relations, melody writing and simple harmonization.

In the second year, melody writing is continued, harmonization a little further developed, new chords introduced, etc.

The third year leads to altered chords and modulation, elaboration of melody, imitation, counterpoint, canon, fugues and composition in the easier forms.

This study is generally conducted in classes of four or five, but those who desire quicker advance may secure private lessons at special rates, according to the statement upon another page.

HISTORY.

The classes in the study of musical history are conducted by Mr. Peterson. This clearly follows the development of music and musical instruments from the earliest to the present time. This is a subject upon which every musical student should be well grounded, and some knowledge of it is essential in the general education equipment of everyone who is at all musically inclined. An examination upon this subject must be passed by all students before receiving certificates or diplomas.

THEORY.

The study of theory is also conducted by Mr. Peterson. This study includes the principles of acoustics and formation of sound, together with a study of analysis of musical forms; simple songs, forms, arias, ballades, and other vocal forms; the more simple forms of dance music, leading to the higher forms of the sonatina and sonata, canon, fugue, etc.

This study is also required of all students receiving certificates or diplomas.

EAR TRAINING.

A special class in ear training and sight reading is to be included in the course for the coming year, to be conducted by a capable and experienced teacher. This study will be required of all music students.

EXPENSES OF STUDENTS.

The tuition for regular work throughout the year is listed in the table of fees below and depends upon the instructor, subjects studied, etc.

FEES.

The following fees will be charged a semester for instruction:

Prof. Hedge.

Voice—

Two half hour lessons per week, major work	$32.00
One half hour lesson per week, minor work	18.00

Mr. Christensen.

Violin, Viola, Cello and Band Instruments—

Two half hour lessons per week, major work	$28.00
One half hour lesson per week, minor work	17.00

Mr. Peterson.

Piano—

Two half hour lessons per week, major work	$28.00
One half hour lesson per week, minor work	17.00

Miss Allen.

Voice and Piano—

Two half hour lessons per week, major work	$26.00
One half hour lesson per week, minor work	15.00

Miss Caspari.

Piano—

Two half hour lessons per week, major work	$26.00
One half hour lesson per week, minor work	15.00

Harmony, history, theory, ear training, sight reading, etc., in classes, free to all students in voice, piano or violin.

Private lessons in harmony may be obtained for the additional fee of $10.00 a semester.

Students studying in more than one department, for example both voice and piano departments, will be given a discount of $5.00 a semester to cover the free theortical work to which they are entitled in each of these departments.

Practice pianos maay be used at the following rates a semester:

One hour a day, $4.00.
Two hours a day, $7.00.
Three hours a day, $9.50.
Four hours a day, $12.00.

Department of Art

MISS CALDWELL; MISS GODDARD.

The aim in arranging the subjects in this department has been to offer such work as shall correlate with other college courses in becoming a means to a general education.

The object of the work is to cultivate an appreciation of beauty and to develop technical skill.

The department is equipped with a good collection of casts and photographs and with such tools as are necessary for class work.

Two courses of study are offered, the preliminary work in each being the same. One course includes the study of form and color, and the other the principles of design and their application in various crafts. A diploma is given students who satisfactorily complete either course. The time necessary to secure a diploma depends on the ability of the student, three years being an average length of time, although the work may be extended over a longer period and carried with a regular college course. The course in academic drawing and painting includes drawing from cast and still life, painting, and art history, (courses 6, 7, 8, 9, 10, 11, 12, 13.) The course in applied design includes a year of drawing, two years of design and handicraft, with a year of art history, (courses 4, 5, 6, 7, 8, 9).

Any advanced student wishing to study the technique of pen and ink will be given individual instruction in that subject.

For Art 1 and 2 see the preparatory department.

3. **Theory of Design.**—Two recitations a week, second semester; required in the sophomore year of the Home Economics Course. This subject treats of the principles of design and their practical application in the home.

4-5. **Applied Design.**—Two laboratory periods a week, first and second semesters; required in the senior year of the Home Economics Course elective in the senior year of the General Science Course; prerequisite, Art 1. One period a week for lecture and criticism of original designs and three periods for the working out of these designs in the various crafts of basketry, stenciling, weaving, leather, woodcarving, metal work and jewelry. Students wishing a diploma are required to continue the study of design for a second year and study the principles of the crafts they have not included in their first year's study of applied design.

6. **Art History.**—Two recitations a week, first semester; required in the senior year of the Home Economics Course, elective in the senior year of the General Science Course. This course aims to acquaint the student with the styles of historic architecture and with prominent buildings illustrative of each style.

7. **Art History.**—Two recitations a week, second semester; required in the senior year of the Home Economics Course, elective in the senior year of the General Science Course. A study of great schools of painting. Reference books in the general library and a collection of photographs in the department furnish material for this course.

8. **Charcoal Drawing.**—Five hours a week, first semester; elective to students pursuing special work in art. Drawing from simple casts in outline and in light and shade.

9-10. **Charcoal Drawing.**—Five hours a week, first and second semesters; elective to students pursuing special work in art. Drawing of heads and figures in full light and shade from casts, sketching from pose; **prerequisite Art 8.**

11. **Study of Values.**—Five hours a week, first semester; elective to students pursuing special work in art. Value studies in charcoal from still life as preparatory work for painting; prerequisite Art 1-2.

12-13. **Painting.**—Two laboratory periods a week, first and second semesters; elective to students pursuing special work in art; prerequisite, Art 8. Study of color and technic of painting in oil, pastel, and water color from still life and flowers.

14-14a. **Public School Drawing.**—Second semester, elective to college students; required in First Year Normal Home Economics Course. In this course such work in drawing and color, is given as will be an aid to students intending to teach in public schools.

15. **Theory of Design and Handicraft.**—b 2; required in Two Year Normal Course in Home Economics. Basketry and Stenciling. Students are required to work out their own designs for each problem.

15a. **Theory of Design and Handicraft**—Leather Tooling and weaving. Planning of designs and color harmonies for all problems.

16. **Design for Needlework.**—One hour a week, first semester. This work is offered in connection with the course in needle craft in the Home Economics department.

Department of Military Science and Tactics

LIEUTENANT FOLEY, Commandant.

The work of this department is conducted in accordance with War Department orders promulgated pursuant to Acts of Congress.

Instruction in military science and tactics in educational institutions throughout the United States forms a part of the present general system of military training; its function is to impart to the college youth of the land knowledge of the elements of military science and the duties of the soldier in the garrison and in the field in order that the people may receive the benefit of more efficient service when final resort to arms to sustain the national honor or to enforce the laws shall become necessary.

Direct benefits of lasting value are received by the individual cadet which contribute to strengthen his physique and mentality, the better to fit him for the duties of life.

The instruction is both practical and theoretical, as follows:

PRACTICAL.

Infantry drill regulations; firing regulations for small arms; field service regulations; manual of guard duty. Three hours a week; required of all able bodied male students of the sophomore. freshman and preparatory classes, the school of agriculture, and special students; optional for seniors and juniors, who may elect further work in the department subject to approval; they may also be required to turn out on special occasions by direction of the commandant upon approval of the president.

THEORETICAL—REQUIRED.

Infantry drill regulations; firing regulations for small arms; field service regulations; manual of guard duty; army regulations. This course is progressive and required for commissioned and non-commissioned officers, one hour a week, one semester, or equivalent. Lectures by the Commandant on various military subjects will be delivered monthly before all cadets. Elements of Military Science; additional requirement for sophomores, one hour a week, second semester.

THEORETICAL—ELECTIVE.

Field Service Regulations and Military Engineering. Junior year, first semester, one hour a week.

Applied Tactics. Junior year, second semester, one hour a week.

Military Law. Senior year, first semester, one hour a week.

International Law. Senior year, second semester, one hour a week.

Further advanced work may be elected with appropriate credit, subject to the approval of the faculty.

All students herein referred to constitute the corps of cadets and are organized for the purpose of drill and administration as an infantry battalion, with a band to which qualified cadets are especially assigned.

The appointment and promotion of commissioned and non-commissioned officers are made in accordance with merit by the commandant subject to the approval of the president.

The College is provided by the U. S. government with the equipment necessary to conduct the department. Each cadet must provide himself with the prescribed uniform. The complete uniform will be worn at all drills and other exercises.

The following is an extract from war department orders:

"Upon the graduation of every class, the professor of military science and tactics, after consultation with the president of the college * * *, will decide upon and report to the Adjutant General of the Army the names of such students belonging to the class as have shown special attitude for military service, and will furnish a copy of his report to the Adjutant General of the state for his information.''

Department of Commerce

PROFESSOR STARRING; MR. SCHLATTER; MISS DONALDSON.

The department of commerce offers two courses of study:

(1). The Secretarial Course for students who have completed a high school course of three or more years. The work of the course may be counted towards the completion of the entrance requirements to the freshman year of the college, under certain restrictions imposed by the committee on entrance requirements—and also depending upon the additional work that has been done by the student. However, it frequently happens that such students have no intention of pursuing a regular collegiate course of study, but are obliged by force of circumstances to take a one-year's business course preparatory to office work. These students welcome the opportunity of securing a commercial education in a college atmosphere.

(2). The regular commercial course combines preparatory subjects with business branches and covers a period of four years. This course is valuable to the student who desires to obtain a broad general knowledge with his commercial training. The student also gets regular credit for the work toward admission to the freshman year of college, in case he wishes to continue his education. Many students, in fact, take the business subjects in order to learn some method of earning their future college expenses.

All stenographic courses are so arranged that students are given considerable actual office practice during the second semester just before completing the course. The idea is to train the student for immediate service in office work, and to minimize the customary bungling of the ''beginner.''

Positions. The demand for our graduates far exceeds the supply. Hardly a week passes that we are not asked to recommend some young man or woman for office work. There are usually three to five positions for every student.

Brookings is now a regular point for the holding of Civil Service examinations. Students who desire to take the examinations are encouraged to do so and are given all the preparation possible.

Those who have not completed the equivalent of at least three years of a high school course should follow the course in commercial science as outlined in the schedule of the preparatory department. Shorthand students are required to have had a preliminary English training of about three years.

Under certain restrictions, collegiate students are permitted to take electives in Business Law, Theory of Money and Banking, Industrial Journalism and Advertising. During the past year students of Journalism wrote for general publication many good articles on Agricultural, Scientific and general topics. The class in Advertising prepared advertisements for Brookings business men, live stock dealers, etc. All courses are made practical as far as possible.

The Sectarial Course

FIRST SEMESTER.

Business Law.—Three recitations a week. This subject includes practical analysis of contracts; negotiable paper; agency; partnership and corporations; personal and real property; suretyship, guaranty and insurance; the management of decedents' estates. Lectures and text-book work supplemented with the study of actual cases. Special lectures by local and visiting attorneys.

English.—Three recitations a week. Either freshman rhetoric or the English of the fourth preparatory year. This is to give practice in composition, supplemented with reading. This course is intended to develop the power of writing correct English.

Shorthand.—Five recitations a week. Theory, drills to develop ability in writing sounds. Study of word-signs; simple dictation. Pitmanic system.

Typewriting.—One hour a day. Drills for learning key-board by touch method; business and legal forms; manifolding and letter press; mimeographing; care of machine. Each student will be made familiar with standard typewriters.

Accounting.—Three double periods a week. A brief course to acquaint the student with the elements of business bookkeeping, the knowledge of which is essential, whether actually used by the student or not.

SECOND SEMESTER.

Money and Banking.—Three recitations a week. A theoretical and practical study of money and its uses; money and credit funds; their instruments of transfer; the commercial bank; savings bank; trust company; building and loan association; brokerage; organization and operation of various banking institutions; legal regulations. A practical course not usually given in commercial schools.

English.—Three recitations a week. A continuation of the first semester's course. Too thorough a study of English cannot be made by the student who expects to become a first-class secretary.

Shorthand.—Five recitation periods a week. A practical continuation of the work of the first semester. Dictation, including all forms of correspondence and legal matter; polite letter writing; terse business diction; special practice anticipating certain office work or civil service.

Typewriting.—Five to ten hours a week. To be taken in connection with the Shorthand.

Secretary Practice.—Five laboratory periods a week. Afternoon practice with college officers or business firms in town. Each student will be carefully "checked up" on this work. The practice will be of great value in giving preliminary experience, and will remove the fear of entering the first regular office work upon graduation.

THE REGULAR COMMERCIAL COURSE.

The following subjects are offered in the regular four-year course in commercial science. For complcte schedule see outline of the preparatary course.

1. **Commercial Correspondence.**—Three periods a week, first semester. A practical course designed to teach the student to write creditable and up-to-date business letters in natural and conversational English. Particular attention will be paid to penmanship.

2. **Commerce and Industry.**—Three periods per week, second semester. Continuation of work of first semester; study of industry and commerce, local, national, and international. This course will be illustrated by the use of a commercial museum now being collected. The student will be required to learn the use of government reports and other sources of information in collecting data.

3. **Bookkeeping.**—Three laboratory periods per week, first semester. Single and double entry studied as in actual business; the aim being to acquaint the student with the fundamental principles of bookkeeping. Students who are deficient in penmanship will be required to take course 1.

4. **Bookkeeping.**—Three laboratory periods per week, second semester. Advanced bookkeeping, affording practice with the more complex books and forms used in modern offices. Special attention given to the accounting books of commission, general merchandise, wholesale and retail business, manufacturing and banking. By the use of separate price lists, each student will be obliged to do independent study and thinking. In this course the student becomes familiar with the uses of various kinds of commercial paper and office practice.

5. **Shorthand.**—Five recitations per week, first semester. In this course the student masters the theory of shorthand; dictation of simple business letters to develop facility in handling writing materials; drills on principles, characters and word-signs. Pitmanic shorthand is taught. Nothing but the very best work is accepted, for it is time

wasted to prepare second and third rate stenographers for office work.

6-8. **Typewriting.**—Five periods a week, first semester. Five to ten periods a week, second semester. Graded exercises to learn machine by touch method; care of machine; correspondence and legal forms; manifolding and mimeographing; billing and tabulating. The work of the second semester will be based upon shorthand dictation. The student will be required to develop the ability to read and transcribe his notes readily and accurately. Each student is to collect a port-folio of his typewritten work which has been accepted by the instructor of typewriting.

7. **Shorthand.**—Five recitations per week, second semester. Dictation of business letters and general matter to develop speed; legal forms; civil service matter. Student is not allowed to develop speed carelessly at the expense of legibility. With this course, the student makes a study of commercial correspondence and the most approved forms in letter composition. All dictated matter is transcribed on typewriter.

9. **Business Law.**—Three recitations a week, first semester. Designed to acquaint the student with the fundamental principles of business law, supplemented with a study of actual cases illustrative of these principles. A topical analysis of contracts; negotiable paper; agency; partnership; corporations; guaranty; sale of chattels; stoppage in transitu; payment; law of tender; liens; bailment; insurance; probate matters and real estate conveyances.

10. **Money and Banking.**—Three hours per week, second semester. A theoretical and practical study of the history of money; nature and uses of money; classification of banks; bank circulation; deposits and loans; officers of banks; collections; reserves; legal regulations; clearing houses; loan and trust companies. Open to seniors, secretary, and college students only.

11-12. **Practical Publicity.**—Two recitations a week throughout the year. Elective in the junior or senior year of the General Science Course and in the senior year of the Agriculture Course. A practical course in journalism and writing for the press. Advertising and salesmanship.

Note.—On account of the character of the work of this department, it is quite essential that students report for work at the beginning of each semester. Students arriving late often find it difficult to make up back work under a tutor in order to complete the required amount of study during the year.

Preparatory Department

PROFESSOR FORSEE; MISS YOUNG.

For the benefit of students who do not have high school advantages a preparatory department is maintained. This course, whose work extends over four years, contains certain required subjects that are considered necessary to a liberal education. The remaining work may be chosen from a large list of elective subjects. The student who pursues the course may thus secure a good preparation for entering upon more advanced work or training for practical life.

The course conforms to the admission requirements as far as the conditions in the College permit. Students will be admitted to the college courses upon the completion of the required subjects and an additional amount of work chosen from the elective subjects to make fifteen units, a unit being five hours a week throughout the year. This requires about three hours of elective work a week in addition to the required subjects during the four years.

PREPARATORY COURSE.

FIRST YEAR.

First Semester—

English Composition, a 5	English	1
Arithmetic (Including Metric System), a 5	Mathematics	1
Civics, a 5	History	2
Business Correspondence and Penmanship, a 3	Commerce	1
or		
Freehand Drawing, b 3	Art	1
Military Tactics, 3		
Elective, a & b 3		

Second Semester—

English Composition, a 5	English	2
Beg. Algebra, a 5	Mathematics	2
Physiography, a 4	Physiography	1
Commerce and Industry, a 3	Commerce	2
or		
Freehand Drawing, b 3	Art	2
Military Tactics, 3		
Elective, a & b 3		

For list of preparatory electives, see the following pages.

SECOND YEAR.

First Semester—

English Composition and Rhetoric, a 5 .... English 3
Algebra, a 5 .... Mathematics 3
Elementary Biology, a 3, b 2 .... Entomology 1
Military Tactics, 3 ....
Elective, a & b 3 ....

Second Semester—

English Composition and Rhetoric, a 5 .... English 4
Algebra, a 5 .... Mathematics 4
Elementary Biology, a 3, b 2 .... Entomology 2
Military Tactics, 3 ....
Elective, a & b 3 ....
For list of preparatory electives see the following pages.

THIRD YEAR.

First Semester—

American Literature, a 4 .... English 5
Plane Geometry, a 4 .... Mathematics 5
German, a 5 .... German 1a
Greek History, a 3 .... History 3
Military Tactics, 3 ....
Elective, a & b 3 ....

Second Semester—

American Literature, a 4 .... English 6
Plane Geometry, a 4 .... Mathematics 6
German, a 5 .... German 2a
Roman History, a 3 .... History 4
Military Tactics, 3 ....
Elective, a & b 3 ....
For list of preparatory electives see the following pages.

FOURTH YEAR.

First Semester—

English Literature, a 3 .... English 7
Elementary Physics, a 3, b 2 .... Physics 1
German, a 5 .... German 3a
English History, a 3 .... History 5
Military Tactics, 3 ....
Elective, a & b 3 ....

Second Semester—

English Literature, a 3 .... English 8
Elementary Physics, a 3, b 2 .... Physics 2
German, a 5 .... German 4a
American History, a 3 .... History 6
Military Tactics, 3 ....
Elective, a & b 3 ....
For list of preparatory electives see the following pages.

PREPARATORY ELECTIVES.

FIRST AND SECOND YEARS.

First Semester—

Freehand Drawing, b 3	Art	1
Carpentry, b 3	Mechanical Engineering	1
Elementary Agriculture, a 3	Agriculture	1
Sewing, b 3	Home Economics	1
Bookkeeping, b 3	Commerce	4
Business Correspondence, a 3	Commerce	1
Typewriting, b 2	Commerce	6

Second Semester—

Freehand Drawing, b 3	Art	2
Forging, b 3	Mechanical Engineering	2
Elementary Agriculture, a 3	Agriculture	2
Cooking, b 3	Home Economics	2
Bookkeeping, b 3	Commerce	4
Typewriting, b 2	Commerce	8
Commerce and Industry, a 3	Commerce	2

THIRD AND FOURTH YEARS.

First Semester—

Freehand Drawing, b 3	Art	1
Sewing, b 3	Home Economics	1
Carpentry, b 3	Mechanical Engineering	1
*Shorthand, a 5	Commerce	5
Elementary Agriculture, a 3	Agriculture	1
Typewriting, b 3	Commerce	6
Elementary Physiology, a 2, b 1	Zoology	1
Mechanical Drawing, b 3	Mechanical Engineering	5
Business Law, a 3	Commerce	9
Bookkeeping, b 3	Commerce	3

Second Semester—

Freehand Drawing, b 3	Art	2
Cooking, b 3	Home Economics	2
Bookkeeping, b 3	Commerce	4
Forging, b 3	Mechanical Engineering	2
Mechanical Drawing, b 3	Mechanical Engineering	5
Typewriting, b 3	Commerce	8
*Shorthand, a 5	Commerce	7
Elementary Agriculture, a 3	Agriculture	2
Elementary Physiology, a 2, b 1	Zoology	2
Money and Banking, a 3	Commerce	10

*Students taking Shorthand will be allowed to substitute typewriting for Greek and Roman History, or for English and American History.

School of Agriculture

DR. BRIGHAM; MISS FROMME; MISS KELLY.

The School of Agriculture of South Dakota opened in November, 1908. During the five months of the first school year more than one hundred students were registered in the pioneer class. The average age of these students was twenty years.

The Annex to the Chemical Building of the State College, provides adequate lecture rooms, laboratory, kitchen and sewing room for the School of Agriculture.

The School of Agriculture has for its specific purpose the instruction and training of young people for the life and work of the farm and home, for the social life of the rural community and for American citizenship.

The farmers' boys and girls are often needed on the farms and in the homes to help the parents during the busy season of the year. They can usually be spared from such work during the winter season, and may well spend this time in study which will prepare them for practical, profitable farming and successful home management.

The aim of the instructors in the School of Agriculture is to search out, with the students, the underlying principles of the objects and operations of the farm and household and to teach their application in successful practice.

While the subjects of study consist primarily of those which relate to farming and household economy, they include also such as are essential to a regular high school course. English and mathematics receive due attention. History and civics help to prepare the student for citizenship. Drawing and music are not neglected. Chemistry, physics and biology (including botany, bacteriology, physiology and entomology) will be studied, especially in their relations to the farm and the home. The instruction is largely technical. The technical topics include studies in soil, plants and crops, domestic animals, food, feeds and feeding, cooking, sewing, laundering, farm and home management, records and accounts, carpentry and blacksmithing. Text-books are used when these aids best answer the purpose. Lectures are given in the subjects which can be most efficiently taught in this way. Free use is made of object lessons. Demonstrations are givein in the class rooms, laboratories, kitchen and sewing rooms, barns, greenhouses, gardens, orchards and fields. Laboratory practice is given as far as the facilities permit.

The School of Agriculture welcomes earnest and worthy young men and women from all parts of the state who have passed the eighth grade in the public schools and are willing to work in such a course of mental and manual training as will prepare them for life's labors, on the farms and in the homes of South Dakota.

The tuition is six dollars for the year, with a small fee for each laboratory in which work is taken.

THE SCHOOL YEAR.

The season of schooling continues during the colder months of the year, the term beginning about November first and closing about April first.

The students of the School of Agriculture, after five months of study and training, will return to their homes for seven months and apply in practice the principles and methods which they have studied.

COURSES OF STUDY.

Following are the schedules of the courses of study. The academic studies are practically the same for men and women. The courses are differentiated only in such points as are related to their specific spheres in life's work:

FOUR-YEAR COURSE FOR MEN.

Note.—The small letters and numbers after the names of subjects indicate the character of the work and the number of times a week, "a," meaning class work, "b," laboratory work.

FIRST YEAR.

English	a 4
Arithmetic	a 4
Poultry Culture	b 1
Farm Crops	a 2, b 2
Stock Judging	b 2
Horticulture	b 1
Blacksmithing and Carpentry	b 5
Lectures on Science	a 2
Military Drill	3

SECOND YEAR.

Civics	a 3
Plant Study	a 3
Farm Accounts	b 1
English	a 4
Algebra	a 4
Dairying	a 1, b 2
Horticulture	b 1
Farm Mechanics	a 2
Military Drill	3

THIRD YEAR.

Animal Life	a 3
Elementary Chemistry	a & b 4
English	a 4
Plane Geometry	a 4
Stock Feeding and Stock Breeding	a 4
Mechanical Drawing	b 3
Military Drill	3

FOURTH YEAR.

History (including lectures on co-operation)	a 4
English	a 4
Elementary Physics	a 2, b 2
Physiology	a 1, b 1
Veterinary Science	a 3
Soils	b 3
Entomology	a 1, b 1
Military Drill	3

FOUR-YEAR COURSE FOR YOUNG WOMEN.

FIRST YEAR.

English	a 4
Arithmetic	a 4
Freehand Drawing	b 2
Poultry Culture	b 1
Cooking	a 1, b 3
Sewing and Handwork	b 3
Dairying	b 1
Horticulture	b 1
Lectures on Science	a 2
Physical Culture	4

SECOND YEAR.

Civics	a 3
Plant Study	a 1, b 2

Farm Accounts	b 1
English	a 4
Algebra	a 4
Dietetics and Serving	a 1, b 3
Household Management	a 1
Art Needlework	b 2
Physical Culture	4

THIRD YEAR.

Animal Life	a 1, b 2
Elementary Chemistry	a & b 4
English	a 4
Plane Geometry	a 4
Textiles and Dressmaking and Laundering	a 1, b 3
The House	a 2
Craft	b 1
Physical Culture	4

FOURTH YEAR.

History (including lectures on co-operation)	a 4
English	a 4
Elementary Physics	a 2, b 2
Physiology	a 1, b 2
Sewing and Millinery	b 2
Advanced Cookery and Invalid Cookery	a 1, b 2
Home Nursing and Emergencies and Care of Children	a 2
Physical Culture	4

Short Industrial Courses

Special work is offered in the various industrial departments for the benefit of those who can not avail themselves of the opportunities offered in the longer courses. These short courses are becoming a very attractive and profitable feature in the lives of many who can get away from their homes only at the time of the year when the work is offered, and persons of all ages, young and old, are found working side by side in these classes, to improve the conditions of their lives in the home and on the farm. A special effort is put forth to make the work interesting and specialists from other institutions are often engaged to assist in the instruction.

Since much of this work is adapted to the needs of the persons enrolled for it, the courses cannot be very fully described here. For a more detailed description of any particular work, address inquiries to the department concerned or to the President of the College.

The different courses are mentioned below:

THE TWO WEEKS' COURSE IN AGRICULTURE.

January 6th to January 17th.

This course will consist of lectures on judging live stock, stock breeding, stock feeding, corn judging, grading and cleaning grain, poultry management and kindred subjects.

The tuition fee for this course is one dollar.

THE THREE MONTHS' CREAMERY COURSE.

January 6th to March 26th.

This course is especially designed for young men wishing to fit themselves for various positions connected with the creamery industry such as helpers, buttermakers, managers, inspectors, etc.

Prospective students are urged to get at least six months of practical experience in some creamery before attending College, as by this means it is found that much greater benefit is derived from the work at the school.

The more general application of scientific principles to the manufacturing industries as well as the increasing competition on all sides demands a more thorough training in scientific and business methods than heretofore. This is no less true with regard to the creamery industry, and while the practical work of the school is by no means neglected special pains are taken to teach the underlying principles and the "reason why" for many of our daily operations.

The increasing interest in dairying in South Dakota and the consequent multiplication of creameries are creating a demand for men well trained along dairy lines, and applications for such are constantly being received at salaries varying from $50 to $125 per month. Worthy students may count on the co-operation of the dairy department in helping them to secure positions at the close of their college work.

The following work is offered:

Factory buttermaking and creamery management.

Testing milk and its products.

Dairy bacteriology.
Dairy arithmetic and bookkeeping.
Breeding, feeding and management of dairy cattle.
Agronomy.
Veterinary Medicine.
Creamery Mechanics.

The tuition is four dollars for the three months' term with a small additional fee for laboratory expenses.

A certificate of standing will be issued to all students passing satisfactory examinations on the above subjects.

During the first week of this three months' course special emphasis will be laid on cream testing and the relation of the cream buyer to the dairy farmer. Cream station operators are specially invited to take the work given during this first week.

COURSE IN TRACTION ENGINEERING.

January 6 to June 5.

Modern agricultural methods have introduced the steam and gas engine, as a substitute for animal power, in such a marked degree, that the consequent growing demand for traction engineers has led the College to arrange a five months' course for the special training of such engineers. Extreme care has been taken to offer only such work as will prove valuable to the man running the traction engine and other machinery. A relatively large amount of shop work and engine practice is introduced.

For the work in engine practice several of the most modern types of both steam and gas traction engines are available. Enough time is devoted to this part of the work to make each student thoroughly familiar with all of the engines, and able to operate them satisfactorily in actual practice. The engine practice work generally starts as soon as the frost is out of the ground, or about April 10th, and continues to the end of the term.

A proper proportion of recitations in closely allied subjects is also included in this course.

The tuition is eight dollars for the entire course with a small amount extra for laboratory fees.

Upon the satisfactory completion of the work the student is given a certificate which is virtually the same as a license to run an engine in this state.

Students who desire to take this course are expected to pass a satisfactory examination in arithmetic, to read intelligently and to show such general elementary training as will indicate that they are able to understand the subjects embraced in this course.

The work offered is as follows:

Arithmetic	a 5
Heat Engines and Elementary Physics	a 5
Stock Judging or Civil Government	a 2½
Steam and Gas Engine Lectures	a 2½
Forging	b 2½
Mechanical Drawing	b 2½
Engine Practice	b 2

COURSE OF INSTRUCTION IN THE CARE AND MANAGEMENT OF THE AUTOMOBILE.

May 25th to June 5th.

This course will be thoroughly practical in its nature and will be devoted exclusively to the study of the construction, care and operation of the automobile, in all its details, so as to insure safety to the mechanism as well as economy in general running expenses.

The course will include both lecture and practical laboratory work with automobiles. Each student will have practice in taking down automobiles and after a thorough examination and understanding of the individual parts he will reassemble the machines ready for use.

The tuition fee for the course is one dollar.

The course is open to anyone who desires to take the work.

THREE MONTHS' COURSE IN HOME ECONOMICS.

January 6th to March 26th.

This work includes those phases of the subjects and such methods of presentation as will be of service to women in the management of affairs in the home. The course is given for those who wish a broadening of their outlook along the lines of home-making and have only a short time to give to study. The subjects are considered from this point of view and not with the idea of covering the entire ground as might be done in a longer course.

The tuition fee for this course is four dollars with a small amount additional for laboratory fees.

The subjects included in the work are:

Cooking and Serving.
Handwork and Sewing.
Design and Handicraft.
Horticulture and Home Gardening.
Domestic Dairying.
Sanitation and Home Nursing.

Student Organizations

STUDENT ASSOCIATION.

Harry Rilling	President
Scott Wilkins	Secretary

COLLEGIAN COUNCIL.

G. L. Brown	Chairman Council
Harry Rilling	Member Council
Glenn Cole	Member Council

ATHLETIC COUNCIL.

Roy Nord	Chairman Council
Carl Johnson	Member Council
H. W. Ewing	Member Council

DEBATING COUNCIL.

Scott Wilkins	Chairman Council
W. W. Harriman	Member Council
Eugene Kelly	Member Council

BAND AND ORCHESTRA.

Prof. Christensen	Leader

CHORAL CLUBS.

Prof. Hedge	Director

YOUNG MEN'S CHRISTIAN ASSOCIATION.

Perry Clifford	President

YOUNG WOMEN'S CHRISTIAN ASSOCIATION.

Strayer Morrow	President

ATHENIAN LITERARY SOCIETY.

Edward Binnewies	President

MILITONIAN LITERARY SOCIETY.

Arthur Lynch	President

ART CLUB.

Irwin Oakland	President

AGRICULTURAL SOCIETY.

Ralph Johnston	President

ENGINEERING SOCIETY.

Everett Dunn	President

BATTALION ROSTER.

FIELD AND STAFF.

Major	Henry M. Shea
1st Lieutenant and Bt. Adj.	Bruce E. Clark
2nd Lieutenant and Quartermaster	Leslie V. Ausman

NON-COMMISSIONED STAFF.

Sergeant Major	Frank Knox
Color Sergeant (not yet appointed)	

COMPANY "A."

Captain	Roy H. Soule
Ist Lieutenant	Cyrus Briggs
2nd Lieutenant	Frank Kremer
1st Sergeant	Miller Pilmer
Q. M. Sergeant	Ernest Potter
Sergeant	Edward LaGrave
Sergeant	Frank Jensen
Corporal	Walter Holmes
Corporal	Bernice Haehner
Corporal	J. D. Love
Corporal	Frank Lawler
Corporal	D. K. Alexander
Corporal	Harry Gardner
Musician	Cecil Skinner

COMPANY "B."

Captain	Walter A.Wornson
1st Lieutenant	Ross H. Jensen
2nd Lieutenant	Carrold Iverson
1st Sergeant	Alex Culhane
Q. M. Sergeant	Howard Kornder

Sergeant	Arthur Lynch
Sergeant	Edward Lynch
Corporal	Harold Barton
Corporal	Ora Colliton
Corporal	Jens Riis
Corporal	Harold Miller
Corporal	Edward Schamber
Musician	Thos. Van Laningham

COMPANY "C."

Captain	Ray Cunningham
Ist Lieutenant	David Elsom
2nd Lieutenant	M. O. Abrahamson
1st Sergeant	Thos. Heffernan
Sergeant	John Tilly
Sergeant	Clarence Lawson
Sergeant	J. H. Fromme
Corporal	Bruce Amsden
Corporal	Frank Dutton
Corporal	H. G. Fee
Corporal	C. E. Putzke
Corporal	Clarence Sellers
Corporal	R. W. Speirs

COMPANY "D."

Captain	Henry I. Dutton
1st Lieutenant	Geo. W. Pilmer
2nd Lieutenant	Wm. F. Nolte
1st Sergeant	C. J. Keck
Q. M. Sergeant	H. H. Boekelheide
Sergeant	Edgar McFadden
Sergeant	Marion A. Slocum
Corporal	Jas. F. Cruson
Corporal	Elmer Linn
Corporal	Robt. Nelson
Corporal	Sherman Steiber
Corporal	Harold Gilgore

College Alumni

ALUMNI ASSOCIATION.

Shirley P. Miller, '03	President
B. T. Whitehead, '97	First Vice-President
W. F. Schaphorst, '05	Second Vice-President
Grace Revell, '12	Third Vice-President
H. B. Mathews, '92	Secretary and Treasurer

Class of 1886.

BACHELOR OF SCIENCE.

Sayler, Marcus A.,	Fruit Grower, Orland, Cal.

Class of 1888.

BACHELOR OF SCIENCE.

Aldrich, John M.,	U. of Idaho, Moscow, Idaho
Lawrence, Philip A.	Attorney, Fargo, N. D.
Wellman, Lulah (Hewes)	Mayville, N. Y.

Class of 1889.

BACHELOR OF SCIENCE.

Boswell, Katie (Arnold)	Kennebec
Cranston, Mary (Crane)	Spokane, Wash.
Cross, Alvah G.	
Eno, Durell G.	Farmer, Platte
Grady, Francis A.	Attorney, Crookston, Minn.
Haber, Sarah (Cunningham)	1015 Grand Blvd., Spokane, Wash.
Korstad, Hans	Farmer, Brookings
Larson, Lars K.	Bank Cashier, Dell Rapids
Lawshe, Grace (Brooke)	227 Nelson Ave., St. Paul, Minn.
McKenney, Duston W.	Manual Training, Billings, Mont.
McLouth, Lewis C., Gen. Mgr. Miniature Sales Co.	1228 Chamber Com., Detroit, Mich.
Mork, Albert A.	Farmer, Grelland, N. D.
Roe, Ellen (Aldrich)	Died Dec. 8th, 1897, at Helena, Mont.
Edmund, Rogers	2019 Sycamore, Milwaukee, Wis.
Ross, Carrie (Orcutt)	Northfield, Minn.
Ross, Abbie (Wesche)	Webb, Ia.
Wardall, Anna (Scott)	Osteopath, 3201-31 Ave., S. W., Seattle, Wash.

Class of 1890.

BACHELOR OF SCIENCE.

Allen, William C.	Died in Chicago
Day, John M.	Ekalaka, Mont.

Duffey, Maggie (Irish).....709 Title Guarantee Bldg., St. Louis, Mo.
Egeburg, Hildus .... Farmer, Brookings
Haasarud, Ole H. ....Farmer, Bratsburg, Minn.
Harkins, Lilla A., Prof. of Dom. Science, Montana Agricultural College, Bozeman.
Hopkins, Cyril G., Prof. of Agronomy, Chemist and Vice Director of Experiment Station, U. of Illinois, Champaign.
Jenkins, John C. ....Attorney, 604 Sanford Place, Portland, Ore.
Kenyon, Arthur H. ...... Lawyer, 1315 Mallon Ave., Spokane, Wash.
Pyne, Estel W.....Piano Dealer, 633 S. Union Ave., Los Angeles, Cal.
Rose, Guy W. .... State Mgr. Union Fibre Co., Yorktown, Ind.
Stoner, Minna A., Prof. of Dom. Sc., N. D. Agric. College, Fargo, N. D.
Wardall, Norman M., Deputy County Auditor, 2215 41st Ave. S. W., Seattle, Wash.

Class of 1891.

MASTER OF SCIENCE.

Aldrich, John M. .... Prof. Biology, U. of Idaho, Moscow, Idaho

BACHELOR OF SCIENCE.

Aldrich, Irwin D. .... Editor and Farmer, Big Stone
Bell, William D. .... Editor, St. James, Minn.
Bentley, Wm. S. .... Physician, Hot Springs
Chamberlain, Jennie (Spooner)..Physician, 813 4th St., Detroit, Mich.
Crane, Austin B. ...... Civil Eng., 04303 Lincoln St., Spokane, Wash.
Davis, Homer .... Physician, Genoa, Neb.
Dillon, Willis C. ....
Doughty, Hettie (Dibble)........................Sioux Falls, S. D.
Frick, Mary (Magaw) .... Rochester, Minn.
Hann, Jay B. .... Photographer, Bellingham, Wash.
Houston, Grant .... Physician, Joliet, Ill.
Irish, Henry C. .... 709 Title Guarantee Bldg., St. Louis, Mo.
Lewis, Perry .... Inventor, Mankato, Minn.
Robinson, Alice (Haberlein) .... Los Angeles, Cal.
Shannon, Fanny (Fourt) .... Fairfield, Iowa
Solberg, Halvor C. .... Prof. Steam and Mechanical Eng., S. D. S. C.
Updyke, Nora (Bacon) ....2211 Elizabeth St., Pueblo, Col.
Valleau, Vinal B. .... Merchant, Albert Lea, Minn.
West, Hugh H. .... Physician, Spurling Bldg., Elgin, Ill.
Wolgemuth, Lee E. .... Real Estate, Hamilton, Mont.

Class of 1892.

BACHELOR OF SCIENCE.

Austin, Steven E., Mechanical Engineer, Co. Harrison St. and 42 Court, Chicago.
Davis, Samuel H. .... Farmer, Beaverton, Ore.
Griffiths, David, Asst. Agrostologist, Agr. Dept., Tacoma Park, Wash.

Hamlin, John R., Jr., Fruit Grower, R. F. D. No. 6, Los Angeles, Cal.
Harding, Albert S., Prof. of History & Political Science, S. D. S. C.
Hatfield, Ira H. .... Attorney 1144 O. St., Lincoln, Neb.
Keeney, Emma A. .... Physician, Silver Lake, Ore.
Madden, Marguerite (Akin) .... Brookings
Mathews, Hubert B. .... Prof. of Physics, S. D. S. C.
McAndrew, James E. .... Lawyer, Spokane, Wash.
McLouth, Ida B............Died Aug. 27, 1899, at Short Beach, Conn.
Plocker, Eva (Mathews) .... Brookings
Schlosser, Thomas F. .... Clergyman, Carlton, Ore.
Sloan, Nettie ,Torrence)...............................Redlands, Cal.
Snell, Effie (Clark) .... Memphis, Neb.
Whitten, John C. .... Prof. of Hort., U. of Missouri, Columbia
Winegar, Albert J. ....Life Insurance, 854 Bluff St., Beloit, Wis.

Class of 1893.

MASTER OF SCIENCE.

Griffiths, David, Asst. Agrostologist, Dept. of Agriculture, Washington, D. C.

BACHELOR OF SCIENCE.

Bates, Edmund T. .... Farmer, Wyoming, Iowa
Beck, Milton ..... Chief Engineer, Alamo Mf'g. Co., Hillsdale, Mich.
Edgerton, Wm. M. .... Physician, Faulkton
McLouth, Benjamin F., Ins. Agent, 3215 Royal St., Los Angeles, Cal.
Robertson, Ada N., ... Teacher, Anaheim, Cal.
Robertson, Clarence H., Science Teacher and Y. M. C. A. Sec. for China, 120 Szechuen Road, Shanghai, China.
Schoppe, W. J. A. .... Farmer, Groton, S. D.

Class of 1894.

MASTER OF SCIENCE.

Plocker, Eva (Mathews) .... Brookings
Wolgemuth, Lee E. .... Real Estate, Hamilton, Mont.

BACHELOR OF SCIENCE.

Brown, Cyrus O. .... Attorney, Douglas, Wy.
Brown, James A., Attorney, 520 Security Mutual Bldg., Lincoln, Neb.
Dibble, Hattie (Stow) .... Castlewood
Hopkins, Mrs. C. G. .... Champaign, Ill.
Luke, Fred K. .... Farmer, Kalispell, Mont.
Parker, Fannie (Spooner) .... Brookings
Sproul, Alex H., Director Com. Dept., State Normal, Salem, Mass.
Tanzy, Marvin F. .... Died Feb. 8, 1900, at Canton, S. D.
Waters, Geo. D. ...... Real Estate, Scarritt Bldg., Kansas City, Mo.
Williams, Elinor (Knox) .... Higley, Arizona
Young, Gilbert A., Act. Prof. of Mech. Eng., Purdue Univ., Lafayette, Ind.

Class of 1895.

MASTER OF SCIENCE.

McKenney, Dustin W. .... Manual Training, Billings, Mont.
Schoppe, W. J. A. .... Farmer, Groton
Sproul, Alex H., Director Com. Dept., State Normal, Salem, Mass.

BACHELOR OF SCIENCE.

Allison, Wm. F.,..........Civil Eng., 808 Lewis Bldg., Portland, Ore.
Brown, Sara .... Teacher, Shannon City, Iowa
Cornell, Harry M. .... Real Estate, Mott, N. D.
Mayland, Mable (Merrick) .... Troy, Kan.
Parker, Anna (Moore) .... Brookings
Salisbury, Edith (Robertson) .... 120 Szechuen Road, China
Sevy, Isaac B. .... Fruit Grower, Milton, Oregon
Sproul, Wm. T., Gen. Mgr. Ingersoll Milling Machine Co., Rockford, Illinois.
Thornber, John J..............Prof. of Botany, U. of Arizona, Tucson
Wilcox, Ernest N. .... Farmer, Thawville, Ill.

PHARMACY GRADUATES.

Briggs, Elmer E. .... Farmer, Muscoda, Wis.
Knox, Wm. H. .... Farmer, Higley, Arizona
Lentz, Elmer A. ....Dentist, Brookings
Murphy, Wm. .... Died July 5, 1896, at Brookings
Whitehead, B. T. .... Prof. Pharmacy, S. D. S. C.

Class of 1896.

MASTER OF SCIENCE.

Brown, James A......Attorney, Security Mutual Bldg., Lincoln, Neb.
Luke, Fred K. .... Farmer, Kalispell, Mont.
Robertson, Ada N., ... Teacher, Anaheim, Cal.
Snell, Effie (Clark) .... Memphis, Neb.
Wilcox, Ernest N. .... Farmer, Thawville, Ill.

BACHELOR OF SCIENCE.

Atkinson, Jesse C. .... Civil Engineer, Park Ridge, Ill.
Carter, Louis W. .... Post Master, Highmore
Dibble, Ida (Brown) .... Security Mutual Bldg., Lincoln, Neb.
Downing, Jennie C. .... Rathdrum, Idaho
Grattan, Paul H. .... Hardware Merchant, Jackson, Minn.
Hegeman, Harry A., Captain, 19th Infantry, U. S. A., Vancouver Barracks, Ore.
Holm, Andrew B. .... Accountant, Brookings
Hoy, Howard H. .... Ass't in Phys. and El. Eng., S. D. S. C.
Korstad, Mary .... Brookings
Lusk, Willard C. ...... Editor Yankton Press and Dakotan, Yankton
Mathews, Nora (Hoy) .... Brookings

Mathews, Alta (Smith) .... Indian Springs, Nevada
Sasse, Ernest G. .... Physician, Lidgerwood, N. D.
Williamson, Albert .... Merchant, Kennebec

PHARMACY GRADUATES.

Cotter, J. C. .... Merchant, Dell Rapids
Grove, Eugene .... Physician, Hetland, S. D.
Moore, Thomas .... Druggist, Waterloo, Ia.
Palmer, Horton .... Druggist, White
Sherwin, Frank .... Merchant, Wilamina, Ore.

Class of 1897.

MASTER OF SCIENCE.

Davis, Homer .... Physician, Genoa, Neb.

BACHELOR OF SCIENCE.

Ainsworth, Cephas B. .... Bank Cashier, Hilger, Mont.
Atkinson, Geo. ...... Map Publisher, Ceylon, Saskatchewan, Canada
Atkinson, Walter .... Civil Engineering, Allegan, Mich.
Boyden, Frank E. .... Physician and Surgeon, Pendleton, Ore.
Clevenger, John W. .... Dentist, Chamberlain
Hargis, Christie (Saylor)........1019 6th Ave., E. ,Des Moines, Iowa
Hazel, Wm. A. .... Lawyer, Aberdeen
Husted, Harley H. .... Died Jan. 14th, 1907, at Lincoln, Neb.
Jolley, Wm. G. .... Supt. Schools, Park Place, Ore.
Madden, Cassie (Crowley) .... Spokane, Wash.
Olson, Eva .... Teacher, South St. Paul, Minn.
Parsons, Thos. S., ... Prof. of Agro., U. of Wyo., Laramie, Wyo.
Roe, Robert .... Stockman, Highmore
Shuster, John W.....Asst. Prof. Elec. Eng., U. of Wisconsin, Madison
Thornber, Walter S., Pres. Lewiston-Clarkson School of Hort., Lewiston, Idaho.
Walters, Wm. H. .... Grain Buyer, Bruce
West, Orpha (Sevy)..................................Milton, Ore.
Whaley, Neva (Harding) .... Brookings
Whitehead, Bower T. .... Prof. of Pharmacy, S. D. S. C.
Wilcox, Alice (Remsburg) .... Thawville, Ill.
Work, Lloyd E.......Bond Salesman, 105 S. La Salle St., Chicago, Ill.
Young, Graace (Bullen) ....260 Jessup St., Portland, Ore.

Class of 1898.

MASTER OF SCIENCE.

Chilcott, E. C., Agronomist in Charge of Dry Land Agriculture, Fairfax C. H., Virginia.
Harkins Lilla A., Prof. Domestic Science, Montana Agr. College, Bozeman, Mont.
Parsons, Thomas S. ...... Prof. of Agro., U. of Wyo., Laramie, Wyo.

BACHELOR OF SCIENCE.

Ainsworth, Howard ..... No. 25 Bryant Terrace, Mountain View, Cal.
Ainsworth, Flora (Hazel) .... Aberdeen
Beck, Lewis .... Engineer, 2357 Kenilworth Ave., Norwood, O.
Beck, Lewis .... Engineer, 2357 Kenliworth Ave., Norwood, O.
Bolles, Myrick N., Mining Engineer, with Am. Smelting and Ref. Co. Monterey, Mexico.
Curtiss, Elsie (Crane) .... Kettle Falls, Wash.
Davidson, Margaret (Crane) .... 613 Euclid Ave., Spokane, Wash.
Fjerestad, Hans C. .... Grocer, Sioux Falls
Harding, Charles J. .... Teacher, Brookings
Hegeman, Maude (Boyden) .... Pendleton, Ore.
Hegeman, Mabel (Allison) .... 808 Lewis Bldg., Portland, Ore.
Hodgeson, Herbert H., Top. Engineer, U. S. Geol. Survey, Wash., D. C.
Knox, Wm. H. .... Farmer, Higley, Arizona
Lawrence, Claude W. .... Farmer, Sequim, Wash.
Lawrence, Clay .... Lawyer, Pioneer Bldg., Seattle, Wash.
Loveland, Addie (Towne) ..... 2104 Penn. Ave. S., Minneapolis, Minn.
Paddock, Jay M. .... Ins. Agent, Lake Preston
Riemann, Edith (Adams) ...... 34 Rue de Comines, Bruxelles, Belgium
Thornber, Wm. T. .... Farmer, Colman
Towne, Judson R., Teacher Physics, E. Side H. S., 2104 Penn Ave. S. Minneapolis, Minn.

PHARMACY GRADUATES.

Beebe, Jay L. .... Physician, Anaheim, Cal.
Clevenger, J. W. .... Dentist, Chamberlain
Holsey, Joseph .... Druggist, Veblen
Lee, Berton .... Mankato, Minn.

Class of 1899.

MASTER OF SCIENCE.

Dibble, Hattie (Stow) .... Castlewood
Mathews, Hubert B. .... Prof. of Phys., S. D. S. C.
Thornber, Walter S., Pres. Lewiston-Clarkson School of Hort., Lewiston, Idaho.
Whitten, John C., Professor of Horticulture, U. of Missouri, Columbia

BACHELOR OF SCIENCE.

Colegrove, Ina (Nelson) .... 148West St., Worcester, Mass.
Findeis, Phillip .... Lumber Merchant, Miranda
Lawrence, Mary M., Inst. in Dom. Sc., State Normal, Bellingham, Washington.
Lawrence, Wm. H. .... Hort. Expert, Hood River, Ore.
Mason, Nellie (Mason) .... Albia, Ia.
Nachtigal, Isaac .... Farmer, South Shore
Sherwin, Howard H., Civil Engineer, 15 Lawrence St. Yonkers, N. Y.

Walters, Edith (Fystrom) ...... Died May 16, 1910 at Geneseo, N. D.
West, George .... Physician, Armstrong, Iowa

PHARMACY GRADUATES.

Carr, George .... Druggist, Bison
Crowley, D. C. .... Druggist, Spokane, Wash.
Hepner, Frank .... Asst. Chemist U. of Wyoming, Laramie
Kendall, Clint D. .... Druggist, Brookings
Lindsey, Charles ....Farmer, Winfred
Oulton, Frank .... Real Estate, Faulkton
Shriver, E. M. .... North Bend, Ore.
Taylor, C. DeWitt.........................Pharmacist, Denver, Col.

Class of 1900.

BACHELOR OF SCIENCE.

Allen, Hart M. .... Druggist, Woodland, Cal.
Anderson, Clark W. .... Died March 6th, 1902, at Brookings
Beebe, Jay L. .... Pharmacist, Anaheim, Cal.
Carlson, Esther (Lillygreen) ...... 701 Magnolia St., St. Paul, Minn.
Carlson, Ella (Howard) .... Lake Preston
Davies, Sara (Sherwin) .... 15 Lawrence St., Yonkers, N. Y.
Davies, Mary (Hutchins) .... Fall City, Neb.
DeLa, John W. ....Editor, Balfour, N. D.
Doughty, Matthew W. .... Civil Engineer, Panama City, Fla.
Grove, Frank W. ....Dentist, Delta, Col.
Harza, Carl.............Electrician, 21 Scovel Place, Detroit, Mich.
Kendall, Clinton D. .... Druggist, Brookings
Lawrence, Jessie (Hagerman) .... 328 W. 76th St., Seattle, Wash.
Mathews, Alice (Albright)........1022 8th Ave., Great Falls, Mont.
Mathews, Roscoe A., Expert in Charge of Costs, Boston and Montana Smelter, Great Falls, Mont.
Morrison, Freda (Cole) .... Wenatchee, Wash.
Olson, Gustava (Hodgeson) ..... U. S. Geol. Surv., Washington, D. C.
Williams, Callie (Olson) .... Brookings

PHARMACY GRADUATES.

Bentley, Wm. S. .... Physician, Hot Springs
Brosseau, Jessie E. .... Physician, Frankfort
Baldwin, Corwin B. .... Druggist, Rapid City
Connell, John C. .... Druggist, Luverne
Else, Earl .... Physician, Care Am. Med. Ass'n., Vienna, Austria
Eckhart, Henry .... Died at Menno, S. D.
George, William .... Physician, Selby
Hart, Bertrand .... Physician, Blunt
Jones, Robert .... Druggist, Madison
West, Hugh H. .... Physician, Elgin, Ill.

Class of 1901.

MASTER OF SCIENCE.

Knox, Wm. H. .... Farmer, Higley, Arizona
Whitehead, Bower T. .... Professor of Pharmacy, S. D. S. C.

BACHELOR OF SCIENCE.

Bagley, Susie ..... Teacher, 3012 Ezekiel St., Lake Co., Zion City, Ill.
Bolles, Laura Jane .... Student, S. D. S. C.
Brosseau, Jesse E. .... Physician, Frankfort
Boyd, Mary .... Teacher, Brookings
Cranston, Margaret (Young) ..... Died June 7, 1907, at Oakes, N. D.
Culhane, Michael E. .... Culhane Adjust. Co., Brookings
Davies, Autumn, Inst. in Hist., H. S., Madison Hotel, Omaha, Neb.
Dodge, Fred E. .... Hotel Mgr., Redfield
Else, Earl ...... Physician, Care Am. Med. Ass'n., Vienna, Austria
Enos, Winifred .... Teacher, Brookings
Erickson, Martin L. .... Forestry Service, Medford, Ore.
Evans, Lina (Roskie)..................................Sturgis, S. D.
Fishback, Myra (Kennedy) .... 86 College St., Calcutta, India
Harza, LeRoy F. .... Civil Eng., 501 Lewis Bldg., Portland, Ore.
Hatton, Jno. H. .... Forestry Service, San Francisco, Cal.
Johnson, Rhoda (Lee) .... Died Oct. 18, 1909, Denver, Col.
Kendall, Leonard J. .... Telegraph Operator, Brookings
Kennedy, C. Leroy, Fruit Raiser, R. F. D., No. 18, Mountain View, California.
Langdon, Lillian (Culhane) .... Brookings
McElmurry, Loretta, Teacher, Domestic Sc., City Schools, Brookings
Mork, Theodore .... Farmer, Des Lacs, N. D.
Phillips, Florence (Haas) ....Arlington
Phillips, C. Louise .... Librarian, U. S. Dept. Ag., Washington, D. C.

PHARMACY GRADUATES.

Cornell, Edward .... Pharmacist, Minneapolis, Minn.
Tidball, Clyde ....Druggist, Brookings

Class of 1902.

BACHELOR OF SCIENCE.

Fleming, Michael .... With M. A. Hanna Coal Co., Duluth, Minn.
George, William A. .... Physician, Selby
Hart, Bertrand M. .... Physician, Blunt
Hepner, Frank E., Ass't Station Chemist, Univ. of Wyoming, Laramie
Johnson, Clara (Johnson) .... Brookings
Johnson, Edward .... Died, Tacoma, Wash.
Kephart, George .... Lawyer, Sioux City, Ia.
Lee, Barton E. .... Mankato, Minn.
Ramsey, Henry J., Expert in Fruit Storage, Bureau Plant Industry, Washington, D. C.

Roskie, Geo. .... Forester, Sturgis
Thornber, Edith (Cuckow) .... Brookings
Trooien, Ole N. .... Hendricks,, Minn.
Winegar, Laura .... Nurse, 528 Garfield Ave., Chicago, Ill.

PHARMACY GRADUATES.

Allison, Wm. F., Civil Engineer, 808 Lewis Building, Portland, Ore.
Boyden, Frank E. .... Physician and Surgeon, Pendleton, Ore.
Christianson, Bernett C. .... Druggist, Volga
Hayter, McPherson .... Druggist, Artesian
Jarrett, Arthur A. .... Druggist, Colman
Jarvis, S. Hall .... Druggist, Drew
Leighty, James A. .... Druggist, Winfred
Morton, Frederic M. .... Effington, S. D.
Pickles, Chester E. .... Farmer, Clark
Schnaidt, Henry ....Druggist, Parkston
Schroeder, Anna (Gassman) .... Howard
Thomas, John C. ....Druggist, Marion

Class of 1903.

MASTER OF SCIENCE.

Crane, Austin B., Civil Engineer, 04303 Lincoln St., Spokane, Wash.
Hoy, Howard H. .... Asst. in Phy. and El. Eng., S. D. S. C.

BACHELOR OF SCIENCE.

Almond, Fred C. .... Died March 12th, 1909, at Clear Lake
Cole, John S., Examiner of Dry Land Agr. Exp. Stations, Dept. of Agr., Forestry Service Bldg., Denver, Col.
Colegrove, Lettie (Drew) .... 5535 Ellis Ave., Chicago
Cuckow, Fred W. .... Lawyer, Brookings
Hubbart, Minnie (Holbein) ....Lansford, N. D.
Johnson, Isaac ....Lumberman, Brookings
Kendall, M. Krete .... Brookings
Langdon, Alice .... Stenographer, Brookings
Miller, Shirley P. .... Professor Zoology, S. D. S. C.
Norton, Frank A. .... Fruit Grower, Grand View, Wash.
Otterness, Jens M., Private Sec. to Senator Sterling, Washington, D. C.
Peirce, E. Esther............................Teacher, Watertown
Sanborn, Ethel I. .... Teacher, Eugene, Ore.
Sarvis, Roscoe J., Elec. Engineer, 1319 7th St., S. E. Minneapolis, Minn.
Seide, Louise (Prell) .... Calamus, Iowa
Webster, James L. .... Farmer, Wenatchee, Wash.
Westcott, Geo. R., Asst. Engr. Mo. Pac. Ry., 3837 Russell St., St. Louis, Mo.

PHARMACY GRADUATES.

Drew, Arthur W. .... Medical Student, North Western Univ., Chicago
Hall, Roy J. .... Druggist, Oldham
Heston, Edward C. .... Physician, Roslyn, Wash.
Hollister, Arthur R. .... Druggist, Hill City
Howell, John E., Chemist, S. P. R. R., 2113 Conti Ave., Houston, Tex.
Johnston, Samuel .... Druggist, Vienna
Norton, Frank A. .... Fruit Grower, Grand View, Wash.
Steiner, Frederick W. .... Physician, Havre de Grace, Md.
Trumm, Robert E. .... Druggist, Hayti
Van Dusen, Fred J. .... Lead, S. D.
Young, Alfred J. .... Farmer, Adanac, Saskatchewan

Class of 1904.

MASTER OF SCIENCE.

Trooien, Ole N., ... Hendricks, Minn.

BACHELOR OF SCIENCE.

Binford, Wm. W. .... Lumberman, Greenleaf, Idaho
Bushnell, Maude (Kelton) .... Henry, S. D.
Loucks, Anna Y. (Brown) .... Brookings
Mattice, Albert F., Physician, Care Am. Med. Ass'n. Vienna, Austria
McGarry, Lawrence R. .... Bank Cashier, Mansfield
Ruth, Thomas H. .... Veterinary Surgeon, De Smet
Sanderson, Everett G. .... Farmer, Aurora.
Sherwin, Ralph L., Civil Engineer, Y. M. C. A. Bldg., Scranton, Pa.
Smith, Wm. H. .... Missionary, Cebu, P. I.
Thompson, Clarence .... Farmer, Dell Rapids
Walter, L. Erving .... Farmer, Conde
Williams, Percy........Physician, Los Angeles, County Hospital, Cal.

PHARMACY GRADUATES.

Anderson, Ernest ....Druggist, South Shore
Dillon, Cornelius .... Druggist, Eugene, Ore.
Frick, Harry E. .... Merchant, Mitchell
Goodale, Alton R. .... Druggist, Los Angeles, Cal.
Hooker, Henry .... Physician, Danville, Ill.
Koch, Arthur E. .... Chemist, 374 Euclid Ave., Detroit, Mich.
Ramsdell, Leonard C., Druggist, with Murgittroyd's Drug Co., Spokane, Wash.
Thompson, Gottfried .... Farmer, Dell Rapids
Weisflock, Theodore ....Druggist, Frankfort

Class of 1905.

MASTER OF SCIENCE.

Hepner, Frank E., Ass't Station Chemist, U. of Wyoming, Laramie
Norton, Frank A. .... Fruit Grower, Grand View, Wash.

Phillips, C. Louise.....Librarian, U. S. Dept. Agr., Washington, D. C.
Thompson, Clarence .... Farmer, Dell Rapids
Walter, L. Erving .... Farmer, Conde

BACHELOR OF SCIENCE.

Boyden, Guy L. .... Physician, St. Mary's Hosp., Rochester, Minn.
Chappell, Bessie .... Teacher, Lamar, Iowa
Chappell, Elsie (Wilson) .... Brookings
Davis, Clifford W. .... Farmer, Moscow, Idaho
Elliott, Roy K.......Electrician, 26 Bay State Ave., Somerville, Mass.
Fassett, Della (Loucks) .... Watertown
Fishback, Van Dusen .... Bank Clerk, Brookings
Forrest, Victor E., Contractor, 224 Boston Block, Minneapolis, Minn.
Fulkerson, Vincent .... Special Agent, Dept. of Agr., Fallon, Nev.
Grove, Mary (Potter) .... Ft. Atkinson, Wis.
Hage, Christian F. .... Druggist, Toronto
Howg, Edwin M. .... Physician, Greenbush, Minn.
Jensen, Lewis N..........Special Agent U. S. Dept. Agr., Akron, Col.
Johnson, Carl L. ....Electrician, 805 Lincoln Ave., Schenectady, N. Y.
Mathews, Harry E. .... Supt. Forest Reserve, Las Vegas, Nevada
Miller, Ralph L. .... Lumberman, Melville, N. D.
Murphy, Matt W. .... Lawyer, Fargo, N. D.
Nelson, John Harland, Prof. Structural Eng., Polytechnic Institute, Worcester, Mass.
Ronning, Oscar E. .... Teacher, Hazel
Schaphorst, Wm. F., Technical Engineer, 703 Park Row Bldg., New York City, N. Y.
Seeger, Adolph M. .... Elec. Engineer, Toledo, Ohio
Slocum, Ina S. (Deeley)......2818Grasville St., S., Vancouver, B. C.
Thogerson, Arthur A.........Contractor, 437 C. of C., Portland, Ore.
Walters, Daisy .... Teacher, Bruce
Williams, Harry .... 557 S. Spring St., Los Angeles, Cal.
Williams, Percy ....Physician, 557 S. Spring St., Los Angeles, Cal.

PHARMACY GRADUATES.

Fjerestad, Carl.................................Druggist, Elkton
Howg, Edwin M. .... Physician, Sisseton
Larson, Lars P. .... Teacher, Howard
Mathews, Harry E............ Supt. Forest Reserve, Las Vegas, Nev.
McCurdy, Walter .... Druggist, Lane
Morton, Grant J., Federal Drug Ins., Federal Bldg., Spokane, Wash.
Pottinger, Geo. .... Druggist, Valley Springs, S. D.
Thompson, Clarence .... Farmer, Dell Rapids
Volin, Porter .... Physician, Reliance

Class of 1906.

BACHELOR OF SCIENCE.

Aldrich, G. Malcolm......Prin. Calhoun Schools, Minneapolis, Minn.
Barrett, J. Wylie .... Elec. Engr., Plankinton
Bonesteel, Bee (Dillman) .... Newell
Brownell, Ellen (Wellington).........6326 Repton, Los Angeles, Cal.
Burghardt, Roy D. ....Electrician, 700 Post St., Seattle, Wash.
Carpenter, Abbie J............Dom. Sc. Teacher, Klamath Falls, Ore.
Chilcott, Ellery F.........Supt. State Ex. Station, Garden City, Kan.
Coller, Fred A.............Physician, 72 Pinckney St., Boston, Mass.
Davies, Gladys (Grace) .... Akron, Col.
Erstad, Alfred J..............Electrician, 46 2nd St., Portland, Ore.
Evans, Edna V. .... Dom. Sc., Teacher, Eau Claire, Wis.
Grace, Oliver .... Supt. Sub. Sta., Akron, Col.
Kennard, Frank L., Instr. in Agronomy, State Univ., Moscow, Idaho
Knox, Arthur H. .... Farmer, Alpena
Koch, Arthur E. .... Chemist, 374 Euclid Ave., Detroit, Mich.
Moffatt, Margaret E. .... Teacher, Brookings
Reich, Rose M. .... Teacher, Tunnel City, Wis.
Thornber, Jessie B. .... Teacher, Lewiston, Idaho
Youngberg, Guy E. .... Asst. in Chem., S. D. S. C.

PHARMACY GRADUATES.

Allison, Harold .... Physician, Heppner, Ore.
Bergeim, Olaf, Asst. in Chem., Jefferson Med. Col., Philadelphia, Pa.
Davies, Gladys, (Grace) .... Akron, Col.
Harben, Bartlett L. ....Died June 10, 1912, at Winner, S. D.
Locke, Chas. .... Pharmacist, Brookings
Wipf, Michael J. .... Druggist, Alsen, N. D.

Class of 1907.

MASTER OF SCIENCE.

Culhane, Michael E...........Of Culhane Adjustment Co., Brookings

BACHELOR OF SCIENCE.

Binnewies, Mabel E. .... Teacher, Brookings
Briggs, Stephen F.........Of Briggs & Stratton Co., Milwaukee, Wis.
Burch, Walter S. .... Elec. Engr., Rochester, N. Y.
Christianson, Christine .... Prin. Schools, Sunnyside, Wash.
Dillman, Arthur C.........Special Agent, Dept. of Agr., Newell, S. D.
Dutcher, R. Adams, Asst. in Chemistry, U of Illinois, Champaign, Ill.
Elliott, Bruce A. .... Manual Training Teacher, Wells, Minn.
Elliott, Ross W......Manual Training, Tech. H. S., Des Moines, Iowa
Fjerestad, Alman..........................Elec. Engineer, Estelline
Gagel, Gerald .... Electrician, Rialto, Cal.
Hofstetter, Geo......Instructor Manual Training, Govt. School, P. I.
Kirk, John R. .... Farmer, Springfield

Johnson, Aaron G., Student of Biology, 924 Clymer Place, Madison, Wis.
Knutson, Mabel (Trooien) .... Hendricks, Minn.
McCordic, Clare, Machine Expert, Moose Jaw, Saskatchewan, Canada
McElmurry, Rilla .... Dietitian, 509 Honore St., Chicago, Ill.
Morton, Grant J., Federal Drug Inspector, Federal Bldg., Spokane, Wash.
Reich, J. Carl......Western Elec. Co., 1700 Jackson Bvd., Chicago, Ill.
Salmon, Cecil .... Special Agent Dept. Agr., Newell
Sanderson, Eugene, Elec. Engineer, 355 Lenox Ave., New York City
Tuttle, Volney J., Gen. Elec. Co., 233 Liberty St., Schenectady, N. Y.
Underwood, Genevieve .... Teacher, Watertown
Westcott, Ruth M. (Johnson).......924 Clymer Place, Madison, Wis.
Work, Mary I. .... Stenographer, 4740 Calumet Ave., Chicago

PHARMACY GRADUATES.

Dexter, David F. .... Druggist, Canton
Roney, Ray W. .... Druggist, Chester
Ennis, Herbert I. .... Druggist, Volga
Kartrude, Inga M. .... Teacher, Hardwick, Minn.

Class of 1908.

MASTER OF SCIENCE.

Coller, Fred A. .... Physician, 72 Pinckney St., Boston, Mass.
Koch, Arthur E. .... Chemist, 374 Euclid Ave., Detroit, Mich.

ELECTRICAL ENGINEER.

Elliott, Ross W.......Manual Training, Tech. H. S., Des Moines, Iowa

BACHELOR OF SCIENCE.

Alton, Benjamin H., Med. Stu., Harvard U., 269 St. Botolph St., Boston, Mass.
Bergeim, Olaf, Asst. in Chemistry, Jefferson Med. Col., Philadelphia, Penn.
Carpenter, Clarence A. .... Elec. Engineer, Rapid City
Chilcott, Ralph W. .... Vienna, Va.
Cooley, William R. .... Farmer, Tabor
Griffith, T. Edwin .... Farmer, Timmer, N. D.
Holsey, Ernest .... Elec. Eng., Spokane, Wash.
Hubbart, Edith J. .... Brookings
Hyde, Hallie W., Instr. Dom. Sc., Des Moines Col., Des Moines, Iowa
Kelly, Amy .... Instr. Dom. Sc., S. D. S. C.
Kendall, Nellie G. .... Instructor in English, S. D. S. C.
Locke, Francis J., Electrical Eng., 513 Summer St., West Lynn, Mass.
Mathews, Oscar R. .... Expert, Dry Land Agr., Newell
Mayland, Amy .... Died Feb. 17, 1909 at Lincoln, Neb.
Mayland, George R. .... Civil Engr., Monrovia, Cal.

Nelson, Aaron L. .... Electrician, 253 E. 5th St., Erie, Pa.
Nilsson, Edward........Artist, 1028 Egleston Ave., Kalamazoo, Mich.
Olberg, Fred C. .... Druggist, Port Orchard, Wash.
Perry, William J. .... Elec. Eng., 107 E. 35th St., Chicago, Ill.
Soreng, Edward M., Prof. Electrical Engineering, Marquette Univ., Milwaukee, Wis.
Sperb, John J. .... Civil Engineer, 801 Lewis Bldg., Portland, Ore.
Ulrich, Darwin William, Electrical Engineer, 2605 Cal. Ave., Seattle, Wash.
Underwood, Beatrice .... Watertown
Underwood, Loto R. .... Teacher, Arlington
Weeks, Gordon A., ... Elec. Eng., San Francisco, Cal.
West, Florence E. .... 2709 Irving Ave. S., Minneapolis, Minn.
Whitehead, Lindsey W., Student, Mass. Inst. Technology, Boston, Mass.
Williams, Ruby .... Teacher, 557 S. Spring St., Los Angeles, Cal.

PHARMACY GRADUATES.

Murphy, James P. .... Druggist, Broadland
Hoch, Joseph L. .... Pharmacist, Elkton
Olberg, Fred C. .... Druggist, Port Orchard, Wash.
Quiggle, Ernest J. .... Pharmacist, Groton

Class of 1909.

MASTER OF SCIENCE.

Mathews, Oscar .... Expert Dry Land Agriculture, Newell

ELECTRICAL ENGINEER.

Elliott, Bruce .... Manual Training Teacher, Wells, Minn.

MECHANICAL ENGINEER.

Schaphorst, William, Technical Engr., 703 Park Row Bldg., N. Y. City

BACHELOR OF SCIENCE.

Bacon, Eva F. .... Teacher, Castlewood
Bushnell, Edna .... Brookings
Camp, Fred .... Photographer, Huron
Catlett, Winifred .... Brookings
Champlin, Manley .... Asst. in Agronomy, S. D. S. C.
Clarke, Roy .... Teacher, Watha, N. C.
Coughlin, Chas.........Elec. Eng., 519 Jefferson St., Milwaukee, Wis.
Denhart, Cecil .... Real Estate, White
Erwin, Ada .... Instr., Dom. Sc., S. D. S. C.
Evans, Iva .... Teacher, Geneseo, Ill.
Furnstahl, John .... Civil Engineer, Silver City, N. M.
Jensen, Harvey .... Grand Forks, N. D.
Jones, Robert .... Lawyer, 916 N. Y. Life Bldg., St. Paul

Kremer, Alvin .... Bookkeeper, U. S. Nat'l Bank, Portland, Ore.
Lane, Lloyd .... Elec. Eng., 1440 W. 60th St., Seattle, Wash.
McKeown, Ralph .... Farmer, Sentinel Butte, N. D.
Marquis, Sidney, Elec. Eng., 590 68th Ave. West Allis, Milwaukee, Wis.
Matheny, Chester, ... Elec. Eng., Gen. Elec. Co., Chicago, Ill.
Odland, John .... Farmer, Sentinel Butte, N. D.
Palm, Ellen .... Teacher, Norden
Pierce, Ruth .... Music Teacher, Brookings
Phillips, Geo............ Asst. in Engineering, S. D. S. C., Brookings
Sarvis, Johnson .... Special Agent, Dept. of Agr., Ardmore
Sperb, Frank .... Civil Engr., Weiser, Idaho
Swering, Joe .... Electrical Engr., Renwick, Iowa
Treacy, Timothy, Theological Student, 487 Mich. Ave. N. E., Washington, D. C.
Vernlund, Carl, Med. Student, 168 St. Botolph St., Harvard Univ., Mass.
White, Orland, Student Biology, Bussey Inst., Forest Hill, Boston, Mass.
Wickre, Jacob .... Farmer, Langford
Wright, Mary (Dutcher) .... Champaign, Ill.

PHARMACY GRADUATES.

Abbott, Guy S. .... Druggist, Yale
Buck, Ervin .... Druggist, Wessington Springs
Crosby, LeRoy .... Pharmacist, Hitchcock
Dickey, James .... Druggist, Iroquois
Hage, Christian .... Druggist, Toronto
Wilson, Frank M. .... Druggist, Harlem, Mont.
Youngberg, Guy .... Asst. Chem., S. D. S. C.

Class of 1910.

MASTER OF SCIENCE.

Alton, Benjamin .... Student, Harvard U., Mass.
Dutcher, Adams........ Asst. in Chemistry, U. of Ill., Champaign, Ill.
Youngberg, Guy .... Asst. Chemistry, S. D. S. C.

MECHANICAL ENGINEER.

Hofstetter, George, Instr. in Manual Training, Govt. School, P. I.

BACHELOR OF SCIENCE.

Atkinson, Fay .... Farmer, White
Barber, Floyd .... Civil Engineer, Bower Bldg., Vancouver, B. C.
Biggar, Howard H. ...... Student, Oregon Agr. College, Corvallis, Ore.
Crothers, Harold................ Student, U. of Wis., Madison, Wis.
Crothers, Ralph .... Farmer, Badger
Fickle, Walter .... Died Jan. 26, 1911 at Blunt

Fridley, Ray .... Automobile Expert, Brookings
Grotta, Edwin .... Civil Engr., Suffield, Alberta, Can.
Johnson, Charles .... Merchant, Hetland
Johnson, Milla (Anderson) .... New England, N. D.
Kartrude, Inga .... Teacher, Hardwick, Minn.
Kelly, T. B. .... Brookings
Lothrop, Elmer .... Elec. Engineer, Redfield
Lloyd, Robert, Elec. Contractor, 1222 Story Bldg., Los Angeles, Cal.
Matheny, Allie (Wooledge) .... Minot, N. D.
Matheny, Fred, Civil Engineer, 329 Queen Anne Ave., Seattle, Wash.
Morrison, Joseph...............Farmer, Ex. Substation, Highmore
Nagel, Herman .... Actor, 342 W. 58th St., New York City
Ort, A. A., Civil Engineer, 601 Western Union Bldg., Chicago, Ill.
Palm, Andrew .... Expert Farmer, Watertown
Sexauer, Elmer .... Flour Manuf., Brookings
Sheldon, Nettie .... Teacher, Brookings
Wahl, Walker W. .... Farmer, Columbia
Welch, Cecile .... Student of Music, Boston, Mass.
Wohlheter, Verne .... Law Student, Mich. U., Ann Arbor, Mich.
Yocom, Frank .... Teacher, Portland, Ore.

PHARMACY GRADUATES.

Brown, Geo. B. .... Pharmacist, Wessington Springs
Goldthorp, George................................Druggist, Conde
Morrison, Joseph .... Farmer, Ex. Substation, Highmore
Williams, Arthur .... Pharmacist, Conde

Class of 1911.

MASTER OF SCIENCE.

Sarvis, Johnson.................Special Agt., Dept. Agr., Ardmore
White, Orlando, Student Biology, Bussey Inst., Forest Hill, Boston, Mass.

BACHELOR OF SCIENCE.

Balmat, John..........Real Estate Dealer, Scarritt Bldg., K. C., Mo.
Catlett, Marguerite............Student, Wellesley Col., Boston, Mass.
Cooledge, Leslie.........Student Instr., Univ. of Mo., Columbia, Mo.
Cottingham, Jay .... Lumberman, Mount Vernon
Erwin, Ruth .... Brookings
Finley, Vollmar .... Instr. in Agr., Redwood Falls, Minn.
Fridley, Bess .... Instr. in Dom. Sc., Martinez, Cal.
Fridley, Richard...........Died Aug. 23, 1912 at Lake Benton, Minn.
Fromme, Fred, Student Instr., Botany, Columbia Univ., N. Y. City
Gropengieser, Fred .... Elec. Engr., Onida
Haas, Carrie .... Teacher, Bancroft
Hallen, Harold .... Elec. Engr., Wilkinsburg, Penn.
Huntimer, Percy .... Instr. in Agr., Melrose, Minn.

Jarman, Maebelle	Teacher, Redfield
Johnson, Clifford	Died September, at Huron
Knutson, Geneva (Flittie)	Brookings
Ladd, Amy	Brookings
Mathewson, Lynn	Mech. Engr., 1161 Vincennes Ave., Chicago, Ill.
McMillan, Orville	Farmer, Alpena
Meharg, Max	Teacher, Goodings, Idaho
Mitchell, Harry	Elec. Engr., Wilkinsburg, Penn.
Odland, Ole M.	Farmer, Hurley
Peterson, Helen	Teacher, Stockholm
Plocker, Florence	Sheldon
Quinn, Roy	Instr. in Agr., Atwater, Minn.
Randall, Frank	Mech. Engr., Aberdeen
Sherwin, Muriel (Stoll)	Brookings
Starring, Cecil	Student, Oregon Agr. Col., Corvallis, Oregon
Swenehart, John	Instr., in Agr., Jordan, Minn.
Throop, Lotta (Odland)	Sentinel Butte, N. D.
Tinker, Mable	Student, S. D. S. C.
Wilson, R. O.	Registrar, Mont. Agr. Col., Bozeman, Mont.

PHARMACY GRADUATES.

Fellows, Carl	Pharmacist, Plankinton
Martin, Earl S.	Druggist, Madison
Serles, Earl	Pharmacist, Brookings
Shea, Henry	Student, S. D. S. C.
Vis, Heyme	Pharmacist, Harrison

Class of 1912.

BACHELOR OF SCIENCE.

Atwood, Geo. B.	Veterinary Asst., S. D. S. C., Brookings
Bibby, Irwin J.	Student in Agri., U. of Idaho, Moscow, Idaho
Bisbey, Guy R.	Asst. in Botany, S. D. S. C.
Dachtler, Fred J.	Farmer, Sturgis
Edson, Ray W.	with Gen. Elec. Co., West Lynn, Mass.
Erdman, Henry E.	Deputy State Dairy Com'r., Brookings
Erdmann, Henry E.	Deputy Staate Dairy Com'r., Brookings
Granger, Paul F.	Civil Engr., Calgary, Alberta, Can.
Hahtaway, Floyd C.	Teacher Agri., Redfield
Jensen, Russell C.	Student, U. of Mo., Columbia, Mo.
Kremer, Henrietta	Brookings
Larson, John E.	Expert Farmer, Spink Co., Redfield
Marchant, Guy R.	Elec. Engr., Wilkinsburg, Pa.
Oakland, Irwin S.	Asst. in Agronomy, S. D. S. C., Brookings
Peck, Arthur R.	Elec. Engr., Pittsfield, Mass.
Pence, Clay	Elec. Engr., Wilkinsburg, Pa.
Reeve, John E.	Elec. Engr., Pittsfield, Mass.
Revell, Grace	Brookings

Sauder, Williaam O.	Student of Forestry, Yale, Uni., New Haven, Conn.
Schaphorst, Ben	Student of Law, Brookings
Skinner, Lila	Columbia Univ., New York City
Sparks, Henry	Civil Engr., Sturgis
Stearns, Arthur J	Elec. Engr., Edmonton, Alberta
Welker, Verne E	Elec. Engr., Redfield

PHARMACY GRADUATES.

Bacon, Harry	Pharmacist	Conneaut, O.
Christianson, Helen	Pharmacist	Bruce
Clark, Robt. W	Druggist	Sisseton
Farnham, Beatrice	Pharmacist	Milbank
Farrar, Vere	Pharmacist	Langford
Grant, Clyde	Pharmacist	Kasson, Minn.
Holstrom, Will	Pharmacist	Huron
Holleman, William	Pharmacist	Springfield
Leavitt, Ethel	Pharmacist	Milbank
Morton, Richard	Pharmacist	Sisseton
Serles, Raymond	Pharmacist	Salem

Students List

GRADUATE STUDENTS.

Catlett, Winifred	Brookings
Champlin, Manley	Brookings
Bisby, Guy R.	Brookings
Bolles, Laura J.	Brookings
Bushnell, Edna	Brookings
Loomis, Howard	Brookings
Oakland, Irwin S.	Corsica
Revell, Grace	Brookings
Youngberg, Guy E.	Brookings

Collegiate Students

SENIORS.

Basgen, Fred	Mechanical Engineering	Goodwin
Binnewies, Edward R.	General Science	Brookings
Brigham, Ruth	General Science	Brookings
Cole, Glenn H.	Agriculture	Gary
Dunn, Everett W.	Civil Engineering	Summit
Engstrom, Carl	Electrical Engineering	Redfield
Faulkner, Hugh	Mechanical Engineering	Burkmere
Fowlds, Matthew	Agriculture	Arco, Minn.
Freiberg, George	General Science	Eitzen, Minn.
Greenly, Maurice G.	General Science	Brookings
Gurslee, Chris B.	Agriculture	Hendricks, Minn.
Heiser, Agnes K.	Home Economics	White
Huyck, Nina B.	Home Economics	Lebanon
King, Stanley	Civil Engineering	South Shore
Kremer, Ralph C.	Agriculture	Brookings
Landweer, Earl	Electrical Engineering	Hartford
McHugh, Frank James	Agriculture	Aberdeen
Matheny, Hazel A.	Home Economics	Conde
Morrow, Strayer	Home Economics	Brookings
Morrison, Guy E.	Agriculture	Elbon
Nilsson, Anna C.	Home Economics	Altamont
Nord, Roy A.	General Science	Brookings
Olson, Thos. G.	Electrical Engineering	Canby, Minn.
Pier, Clarence L.	Agriculture	Woonsocket
Rilling, Harry M.	General Science	Brookings
Sanderson, Harry M.	Agriculture	Brookings

Shanley, Clarence	Agriculture	Mansfield
Shea, Henry M.	Pharmacy	Brookings
Shepard, Helen	General Science	Brookings
Sloan, Edith	Home Economics	Brookings
Somers, Grace	Home Economics	Brookings
Sponholz, Lydia	General Science	Madison
Templeton, Mable	General Science	Wessington
Wood, Ruth A.	General Science	Hot Springs

JUNIORS.

Armstrong, Lillian	General Science	Brookings
Armstrong, Inez	Home Economics	Brookings
Ausman, Leslie V.	Agriculture	Brookings
Britzius, Arno R.	Agriculture	Aberdeen
Bushey, Alfred L.	Agriculture	Castlewood
Casley, Lulu	General Science	Brookings
Chappell, Vincent D.	Agriculture	Brookings
Clifford, Perry	Agriculture	Cresbard
Dulitz, Helen	Home Economics	Webster
Elliott, Robert T.	General Science	Rochester, Minn.
Furnish, Alta C.	General Science	Bunceton, Mo.
Gilbertson, George	Agriculture	Bryant
Gotthold, Roy C.	Mechanical Engineering	Brookings
Gropengieser, Bessie L.	General Science	Onida
Grinols, Hazel C.	Home Economics	Brookings
Halladay, Clinton F.	Civil Engineering	Iroquois
Hartgering, Frances B.	Home Economics	Rapid City
Heck, Emil	Civil Engineering	Brookings
Hegdahl, Paul	Civil Engineering	Madison
Hofstetter, Clarence	Civil Engineering	Mitchell
Hurd, Iva	General Science	Brookings
Kelly, Eugene	General Science	Brookings
Knutsen, Charles O.	Electrical Engineering	Canby, Minn.
Legler, Edward V.	Electrical Engineering	Redfield
Luebke, Esther E.	General Science	Castlewood
Persun, Francis J. E.	Agriculture	Mildred, Pa.
Sexauer, Laura	Home Economics	Brookings
Sherwood, Reginald	General Science	DeSmet
Slightam, Kate	Home Economics	Brookings
Somers, Ruth	General Science	Brookings
Valentine, Vey	Agriculture	White
Vercoe, Lewis E.	Civil Engineering	Carthage
White, Henry D.	General Science	Delmont
Wilkins, F. Scott	Agriculture	Mitchell
Wills, Ernest V.	Electrical Engineering	Brookings
Wood, Nina C.	Home Economics	Brookings
Wornson, Walter A.	Pharmacy	Brookings

SOPHOMORES.

Bolland, Jens	Agriculture	Pierpont
Brown, Ruth	Home Economics	St. Paris, Ohio
Brown, Ruth P.	Normal Course	Sturgis, S. D.
Caldwell, Lacey M.	Agriculture	Brookings
Caldwell, Florence	Home Economics	Brookings
Chapman, Daphne	Home Economics	Alexandria
Clarke, Bruce E.	Pharmacy	Brookings
Cooley, Hazel G.	Normal Course	Garretson
Culhane, James L.	Electrical Engineering	Brookings
Culhane, Alexander F.	Agriculture	Brookings
Doughty, W. E.	Agriculture	White
Drury, Lillian	General Science	Chamberlain
Eidsmoe, Clark	Pharmacy	Beresford
Frank, H. Clifton	Agriculture	Pipestone, Minn.
Freeman, John D.	Agriculture	Lead
Gannaway, Cornelia	Normal Course	Chamberlain
Gardner, H. H.	Agriculture	Sturgis
Gilbert, Gladys	General Science	Brookings
Gold, M. J.	Agriculture	Big Stone
Haehner, Bernie	Electrical Engineering	Alexandria
Hale, Ruth V.	Home Economics	Carrington, N. D.
Iversen, Carrold A.	Agriculture	Brookings
Johnson, Joseph O.	Agriculture	Hendricks, Minn.
Johnson, C. J.	Civil Engineer	Brookings
Johnson, Arthur F.	Pharmacy	Brookings
Johnson, Clifford M.	Electrical Engineering	Alexandria
Keck, Dallas L.	Agriculture	Brookings
Kornder, Howard	Electrical Engineering	Armour
Kremer, Frank S.	General Science	Brookings
La Grave, Edward	General Science	Fairbault, Minn.
Lanphier, Ira B.	Civil Engineering	Brookings
Lawler, Frank M.	Pharmacy	Ree Heights
Lawrence, Lester H.	Agriculture	Doland
Lynch, Arthur	Agriculture	Brookings
McFarland, V. H.	Agriculture	Big Stone
McRoberts, Neara	Normal Course	Hot Springs
Nixon, Jessie M.	Home Economics	St. Paris, Ohio
Nord, Florence E.	Home Economics	Brookings
Null, Ralph L.	Pharmacy	Miller
Olmstead, Mabel	Normal Course	Brookings
Peterson, Edith G.	Normal Course	Brookings
Pilmer, Miller	Electrical Engineering	Carthage
Potter, E. C.	General Science	Athens, Pa.
Pratt, Vern W.	Mechanical Engineering	Elkton
Quinn, Arthur	Pharmacy	Arlington
Sample, Eva	Home Economics	Brookings

Simpson, W. R.	Pharmacy	Flandreau
Sloan, Lyle	Electrical Engineering	Alexandria
Soule, R. H.	Pharmacy	Brookings
Tommersen, Corne	Pharmacy	Wentworth

FRESHMAN.

Abbott, Cleveland	Agriculture	Watertown
Alexander, David	Electrical Engineering	Delmont
Anderson, Georgia	Normal Course	Rapid City
Armstrong, Gladys M.	General Science	Brookings
Armstrong, Maude C.	Home Economics	Arlington
Austin, Ethel L.	Home Economics	Bruce
Avery Blanche M.	Home Economics	Alexandria
Barton, H. G.	Civil Engineering	Centerville
Bergeim, Joseph	General Science	Brookings
Bertness, Clara	Secretarial	Brookings
Bogstie, Emma	General Science	Brookings
Brown, Roger	Civil Engineering	Sioux Falls
Burge, Vance L.	General Science	Castlewood
Caldwell, Will	Agriculture	Brookings
Caldwell, Kate M.	Home Economics	Brookings
Calkins, Fred E.	Electrical Engineering	Miller
Creighton, Olive	Normal Course	Wessington Spgs.
Cruson, Fern	Normal Course	Duncan
Daniels, Lloyd A.	Pharmacy	Aberdeen
Dawes, Adelia	Normal Course	Fulton
Dott, Delia M.	Home Economics	Salem
Drees, Allie P.	Agriculture	Timber Lake
Drayer, Raymond	Electrical Engineering	Frankfort
Dunn, Wendell E.	General Science	Summit
Dunning, Clarence R.	Electrical Engineering	DeSmet
Eide, Clara M.	Secretarial	Brookings
Eng, Julius	Pharmacy	Flandreau
Engelcke, Emma	Normal Course	Canistota
Evers, Clarence	Mechanical Engineering	Big Stone
Fish, Warren	Mechanical Drawing	Ipswich
Fridley, Harry	General Science	Brookings
Fryer, Julia	Home Economics	Doland
Gooch, Leslie C.	General Science	Brookings
Gold, Ralph	Electrical Engineering	Big Stone
Greene, Bernice	Home Economics	Parker
Greeves, Bertha E.	Secretarial	Miller
Greeves, Earl E.	Agriculture	Miller
Grudem, William	General Science	Brookings
Hanten, Matt	Agriculture	Watertown
Hastings, Alice E.	Home Economics	Brookings
Holliday, Lloyd H.	Agriculture	Brookings

Horsfall, Hazel	Normal Course	Flandreau
Horsfall, Helen	Normal Course	Flandreau
Horton, Harrison D.	Agriculture	Linden, Iowa
Humphrey, Francis A.	Electrical Engineering	Howard
Jennings, Hollace	Agriculture	Estelline
Jensen, Frank P.	Agriculture	Mitchell
Johnston, Ralph E.	Agriculture	Rapid City
Kadinger, Lewis J.	Pharmacy	Hartford
Kennard, George B.	Agriculture	Brookings
King, Frances	Home Economics	South Shore
Knutson, Robert J.	Agriculture	Brookings
Lanphier, Eva A.	Home Economics	Brookings
Lambe, Matilda	Normal Course	Brookings
Laxson, Leroy	Agriculture	Canton
Lehr, Robert	Pharmacy	Tyndall
Loesch, William P.	Pharmacy	Oldham
Love, Jay D.	Agriculture	Hartford
Lynch, Ruth	Home Economics	Brookings
Lynch, Edward	Agriculture	Brookings
McDougall, Tyrell	Pharmacy	Britton
Marston, Irving	Electrical Engineering	Pierpont
Meharg, Mabel	Normal Course	Gooding, Idaho
Miller, Harold A.	General Science	Brookings
Mitchell, Edith	General Science	DeSmet
Morgan, Della	Normal Course	Armour
Mueller, John E.	Electrical Engineering	Hot Springs
Munro, Wayne	Secretarial	Woonsocket
Myers, Granville S.	Agriculture	Hopewell
Myers, George	Agriculture	Redfield
Nelson, Lewis E.	Pharmacy	Oldham
Otterness, Ida	Normal Course	Brookings
Peterson, Harold	Mechanical Engineering	Sioux Falls
Peterson, Leigh	Agriculture	Watertown
Phelps, Hazel M.	General Science	Watertown
Randall, Harry E.	Pharmacy	Arlington
Ray, Winfred George	Pharmacy	Brookings
Rishoi, Alfred H.	Agriculture	White
Robbins, Clarence J.	Agriculture	Carthage
Rowe, Nellie F.	Home Economics	Watertown
Ryger, Margarette E.	Normal Course	Brookings
Schamber, Edwin	Agriculture	Aberdeen
Schlatter, Ina	General Science	Pulaski, Iowa
Scott, Eva M.	Home Economics	Wilmot
Scotchbrook, Carl E.	Electrical Engineering	Wessington
Scotchbrook, Frances	Home Economics	Wessington
Sheehan, Bernard F.	Agriculture	Aberdeen
Sivertson, Anna	Pharmacy	Pierpont

Skinner, Cecil A.	Agriculture	Brookings
Slaatta, Emma M.	Home Economics	Wilmot
Slaymaker, Elizabeth	General Science	Brookings
Slaymaker, Edith	Normal Course	Brookings
Sloan, Janet E.	General Science	Brookings
Smith, Inez F.	Normal Course	Waubay
Soule, Neva C.	Home Economics	Brookings
Thompson, Mary L.	General Science	Wessington Sprgs.
Tolagson, Clarence F.	Pharmacy	Brookings
Warner, Harry W.	Agriculture	DeSmet
Weber, George	Electrical Engineering	Farmer
Wilson, Helen I.	Secretarial	Parker
Wing, Lesher	Mechanical Engr.	Aladdin, Wyo.

SPECIALS.

Anderson, Eldon	Pierre
Cook, Jay	Arlington
Culhane, Roger J.	Brookings
Evans, R. L.	Brookings
Heiser, Marie	White
Houghton, Jay	Huron
Hodoval, Fritz	Pierre
Hyde, Lloyd G.	Brookings
Jensen, Ross H.	Brookings
Johnson, Clifton H.	Brookings
Knox, Frank T.	Brookings
Olmstead, Hazel L.	Brookings
Prose, Lualava	Wolsey
Robinson, Pierre G.	Leslie
Robinson, Charles Henry	Leslie
Schlatter, Charles F.	Brookings
Shepard, Albert	Brookings
Sloan, Sam L.	Brookings
Wix, Alice O. S.	Arlington
Young, S. A.	Ramsey, Ill.

PREPARATORY STUDENTS.

Third Year.

Anderson, Leslie M.	Brookings
Alrick, Lillia	Brookings
Arnold, Phoebe	Hazel
Beals, Mamie	Brookings
Bell, Arthur Dean	Valley Springs, (S. D.)
Borst, Wayland	Brookings
Briggs, Cyrus	Brookings

Brown, Herbert M.	Butte, Nebraska
Colliton, Ora A.	Elkton
Cress, Nellie J.	Ramona
Dakin, Carl L.	Brookings
Etting, Ruth	Brookings
Giannonatti, Elene	Ludlow
Gilbertson, Gilbert T.	Brookings
Haag, Oscar	Frankfort
Hinners, Ruth F.	Wessington Springs
Holmes, Walter	Brookings
Holmes, Clara	Brookings
Hoy, Louise	La Delle
Larson, Elmer	Colton
Lenocker, Paul	Brookings
Little, Guy	Hazel
Locke, Albert H.	Castlewood
McKay, Milton	Orient
Mears, Hazel	Brookings
Moe, Jettie	Bruce
Nelson, Gladys M.	Brookings
Nusbaum, Charles A.	Pulaski, Iowa
Olson, Edward F.	Alcester
Prentice, Jennie H.	Brookings
Riis, Jens	Denmark
Sheehan, Leroy	Clear Lake
Shepard, James H., Jr.	Brookings
Stoner, Vivian Lake	Highmore
Strachan, Thomas W.	Chelsea
Swenehart, Millie	Brookings
Taylor, Earl	Conde
Thomas, Cornelius C.	Marion
Weber, Anna	Farmer
West, Ethel	Brookings

Second Year.

Beals, Edna	Brookings, S. D.
Bergersen, Pauline	Lake Preston
Bucholz, G. Adolph	Brookings
Clendenning, Virgil	Manchester
Davis, Carrie	Estelline
Day, Lawrence	Platte
Digre, Martin	Hendricks, Minn.
Dutt, Earling	Beulah, Wyoming
Gusler, Glen	Winner, S. D.
Houghton, Merle	Osceola
Hoff, Conrad P.	Brookings
O'Toole, Lawrence	Watertown

Pope, Nellie A.	Estelline
Spawn, Elmo C.	Chester
Swift, Claude J.	Brookings
Van Laningham, Thomas	Brookings
Wilson, Edith M.	Bushnell
Watkins, Clarence	Lavina

First Year.

Abrahamson, Philip	Letcher, S. D.
Andrews, Raymond	Stockholm
Berg, Arnold	Stockholm
Bucholz, Rudolph	Brookings
Bortness, Clarence	Brookings
Cole, Harold	Brookings
Davis, Evelyn	Ramona
Hartwig, Carl A.	Watertown
Hemmenway, Corenne	Spirit Lake, Iowa
Holle, Merle	Brookings
Johnson, Myrtle	Brookings
Johnson, Esther	Brookings
Kimball, Floyd	Brookings
Labrie, Oliver J., Jr.	Frankfort
Ladd, Lemuel	Brookings
Lindahl, Robert	Strandburg
Lindahl, Joseph	Strandburg
Lindahl, Arthur	Strandburg
McLeod, Miles	Winfred
Miller, Ben F.	Aberdeen
Moore, Edmund	Volin
Neal, Frank	Aurora
Nusbaum. Fern	Pulaski. Iowa
Roberts, Milo	Faulkton
Rude, Florence	Brookings
Rude, Lillian	Bruce
Rudy, Fred	Yale
Seaver, Willis	Garden City
Sell, Mary	Lismore, Minn.
Smith, Clarence R.	Henry
Stephens, Cecil	St. Onge
Templeton, Lois	Wessington
Trygstad, Joseph	Brookings
Wall, Neal	Cresbard
Wall, Rose	Cresbard
West, Verne G.	Brookings

MUSIC STUDENTS.

Alrick, Lilla	Piano	Brookings
Armstrong, Inez	Voice	Brookings
Arnold, Phoebe	Piano and Voice	Hazel
Ausman, Leslie	Voice	Brookings
Barboe, Oscar M.	Violin	Alcester
*Bartlett, Lynn	Piano and Voice	Osage, Iowa
Bergersen, Pauline	Piano	Lake Preston
Binnewies, Edward	Voice	Brookings
Bogstie, Emma	Piano	Brookings
Brown, Roger S.	Voice	Sioux Falls
Bucholz, G. Adolph	Cornet	Brookings
Bucholz, Rudolph	Trombone	Brookings
Caldwell, Florence	Piano	Brookings
Caldwell, Will	Wind Instrument	Brookings
Casley, Lulu	Voice	Brookings
Chapman, Daphne	Piano	Alexander
Clendenning, Virgil	Wind Instrument	Manchester
Cunningham, Ray	Voice	Conde
Davis, Carrie E.	Piano and Voice	Estelline
Davis, Evelyn	Piano and Voice	Ramona
Drees, Allie P.	Piano	Timber Lake
*Erwin, Ruth	Voice	Brookings
Etting, Ruth	Piano	Brookings
Faulkner, Hugh	Violin	Burkmere
Fryer, Julia	Piano	Doland
Furnish, Alta	Piano and Voice	Bunceton, Mo.
Gannaway, Cornelia	Piano	Chamberlain
Giannonatti, Elene	Piano	Brookings
Gilgore, Harold	Clarinet	Esmond
Gooch, Leslie	Piano	Brookings
Greeves, Earl E.	Horn	Miller
Griffith, Harold	Violin	Cresbard
Gusler, Glen	Wind Instrument	Winner
*Hackett, Beatrice	Piano	Lake Preston
Halverson, Hilda	Piano	Kenneth, Minn.
Hansen, Jens	Violin	Oldham
Hastings, Alice E.	Piano	Brookings
Healy, J. F.	Voice	Irene
Heirigs, Wendel	Violin	Viborg
Hegdahl, Paul	Voice	Madison
*Higby, E. Nathelle	Piano and Voice	Lander, Wyoming
*Higby, Elsie W.	Voice	Lander, Wyoming
Howell, Everett	Violin	Florence
Hoy, Louise	Piano	La Delle
*Hubbart, Edith J.	Voice	Brookings

Johnson, Esther O.	Piano	Brookings
*Karr, Hazel	Piano	Brookings
*Karr, Jennie	Voice	Brookings
*Kee, Wm. Bates	Piano and Voice	Ripley, Tenn.
Keck, Dallas L.	Cornet	Brookings
Keck, Marvin	Trombone	Brookings
Knudson, Olivia	Piano	De Smet
Larson, Lloyd J.	Violin	Warner
Little, Guy	Clarinet	Hazel
Lynn, Floyd	Violin	Wolsey
Mateer, S. G.	Violin	Huron
Matson, Luella	Piano	Lake Preston
Mears, Hazel	Voice	Brookings
Miller, Ben F.	Violin	Aberdeen
Moe, Jettie	Piano	Bruce
*Moone, Nina	Piano and Voice	Oakdale, Neb.
Murphy, Grace M.	Piano and Voice	Montrose
Mydland, Galena	Piano and Voice	Lake Preston
Neal, Frank	Violin	Aurora
Nelson, Jennie	Piano	Gayville
*Noggle, Julia E.	Piano and Voice	Sioux Falls
Nusbaum, Fern	Piano	Pulaski, Iowa
Nusbaum, Chas. A.	Voice	Pulaski, Iowa
Olmstead, Hazel	Voice	Brookings
Olson, O. V.	Violin	Huron
O'Toole, Lawrence	Wind Instrument	Watertown
*Paul, Winifred Mable	Voice	Brookings
*Peirce, Ruth	Piano	Brookings
Pope, Nellie	Piano	Estelline
Price, Wm. G.	Wind Instrument	Tulare
Prose, Lualava	Piano and Voice	Wolsey
Ray, Winfred George	Voice	Brookings
Rehnke, Ernest	Piano and Voice	Crandon
Roe, Palmer	Violin	Canton
Rude, Lillian	Piano	Bruce
Rude, Florence	Piano	Brookings
Rudy, Fred	Violin	Yale
Ruhlman, Donald	Clarinet	Rockham
Sample, Eva	Piano	Brookings
Schlatter, Ina	Piano and Voice	Pulaski, Iowa
Seide, Edwin F.	Cornet	Milbank
Skinner, Cecil	Voice	Brookings
Smedsrud, Emelia	Piano and Voice	Russell, Minn.
*Smith, Henrietta	Piano and Violin	Lennox
*Smith, Clara	Piano and Voice	Lennox
Spawn, Elmo C.	Wind Instrument	Chester
Sutherland, Inglis	Violin	Thomas

Svien, Helmer	Violin	Wallace
Taylor, Earl	Violin	Conde
*Taylor, Bessie I.	Piano and Violin	Sleepy Eye, Minn.
Thompson, Mary L.	Piano and Voice	Wessington
Van Laningham, Thomas	Wind Instrument	Brookings
Weber, Anna	Voice	Farmer
West, Ethel	Piano	Brookings
Williams, Owen	Violin	Ipswich
Wix, Alice	Piano	Arlington
Wolff, Otto	Wind Instrument	Parker
*Youngberg, Mamie	Piano and Voice	Brookings
Zimrich, Joseph	Violin	Grover

*Classified in Music only.

SCHOOL OF AGRICULTURE STUDENTS.

Third Year.

Abrahamson, M. O.	Mt. Vernon, S. D.
Baxter, Grace	Hazel
Bickel, Frank H.	Clark
Cunningham, Ray	Conde
Dokken, Arthur	Brandt
Dutton, Henry I.	Hardingrove
Elsom, David	Britton
Flint, Sylvia	Oldham
Fromme, J. H.	Summit
Gilbert, Winnie	Prosser, Washington
Heffernan, Thomas	Big Stone
Hood, Leigh	Groton
Keck, C. J.	Brookings
Knudson, Otelia	De Smet
Kurtz, Fred E.	Bushnell
Lacher, Joseph	Ipswich
Lawson, Clarence	Brookings
Long, Vinje M.	Webster
McGaffee, Perry	Harrold
Nelson, Edward J.	Mt. Vernon
Nolte, William F.	Butler
Pilmer, Geo. W.	Brookings
Price, Wm. G.	Tulare
Ruhlman, Donald	Rockham
Slocum, Marion A.	Ipswich
Tilly, John	Hazel
Wachtmann, Arthur E. A.	Rutledge, Mo.
Wood, Milton R.	Brookings

Second Year.

Amsden, Bruce	Groton
Andreessen, Henry	Tea
Boekelheide, H. H.	Northville
Cruson, Jas. F.	Duncan
Deville, Rosa	Watertown
Dimick, Lyle	Vermillion
Dutton, Frank	Hardingrove
Fee, Howard G.	Cherokee, Iowa
Fuerstenau, Wesley	White
Gilgore, Harold	Esmond
Gregg, Clark M.	Hartford
Griffith, Harold	Cresbard
Gross, Myrtle L.	Madison
Hatlestad, Melvin	Garretson
Haugen, George	Dell Rapids
Hood, Leigh	Groton
Johnson, Arvid G.	Strandburg
Johnson, Conrad	Salem
Keeler, Earl J.	Frederick
Linn, Elmer	Elm Springs
Long, Vinje M.	Webster
Loriks, Emma	Arlington
Lynn, Floyd	Wolsey
McFadden, Edgar	Webster
McKee, Inez	Wagner
Nelson, Robert	Armour
Petry, Tom	Hawarden, Iowa
Pike, Anna C.	Brookings
Putzke, C. E.	Humboldt, S. D.
Schmidt, Emma E.	Alpena
Schrader, Gus	Lake Preston
Sedgwick, Caro	Crow Lake
Sellers, Clarence	Belle Fourche
Spiers, Ralph W.	Ree Heights
Steiber, Sherman	Madison
Stitt, Vernon P.	Hitchcock
Sutherland, Inglis	Thomas
Vejrup, Niels Hansen	Ribe, Denmark
Wolff, Otto	Parker

First Year.

Allinson, Earl H.	Gary, S .D.
Anderson, Edna R.	De Smet
Arp, Carl	Chamberlain
Benson, Gifford	Clark
Berry, Earl E.	Delmont

Biermann, Chris	Mansfield
Bjerke, Elmer	Andover
Bower, Ralph A.	Correctionville, Ia.
Brekke, Herman	Lake Preston
Brown, Edward	Springfield
Buehler, Frank	Bristol
Clouse, Mabel	Miller
Clouse, William	Miller
Cochran, Paul	Ipswich
Coulson, Earl	Irwin
De Witte, Don	Highmore
Fosheim, Oscar	Howard
Geyer, Harry	Fairfax
Gigg, Ethel May	McClure
Gigg, Lucile	McClure
Glidden, Walter	Milboro
Graham, A. L.	Banbury, England
Graves, Charlie L.	Ashton
Greguson, Helmer	Inwood, Iowa
Griffith, Gar	Cresbard
Halgerson, Ralph	Canistota
Halverson, Herbert R.	Kenneth, Minn.
Halverson, Hilda	Kenneth, Minn.
Healy, J. F.	Irene, S. D.
Heirigs, Wendel	Viborg
Herr, Clara	Butler
Herrick, Don	Ipswich
Hinch, Lloyd	White
Hinsvark, Melvin B.	Brandt
Holley, Max	Dempster
Holt, Raymond	Clear Lake
Holtquist, Alder E.	Milbank
Horen, Clarence G.	Cresbard
Horsley, Alta N.	Virgil
Howell, Everett	Florence
Jensen, Chester I.	Oldham
Johnson, Gladys	Doland
Jones, McKinley	Mitchell
Kasten, Alfred	Humboldt
Kearns, Keith	Vermillion
Keck, Marvin	Brookings
Keck, Myrtle	Brookings
Kieser, H. W.	Wessington Springs
King, Edwin J.	Clark
Klungness, Tilda	Garretson
Knudson, Olivia	De Smet
Kvalshaug, Fred	Centerville

Larsen, Lawrence H.	Humboldt, S. D.
Larson, Lloyd	Warner
Larson, Mary	Mt. Vernon
Lindgren, Arnold	Florence
Lindsey, Grace	Brookings
McDonald, Harold B.	Vermillion
McFarlane, James F.	Brookings
Mann, Cordes	Brookings
Mateer, S. G.	Huron
Morris, Wesley	Brookings
Mueller, Oscar	Madison
Mueller, Robt. F.	Madison
Nelson, Alfred	Sisseton
Nelson, Anna	Erwin
Nelson, Harry A.	Gayville
Olson, O. V.	Huron
Onstine, Everett	Flandreau
Parker, Elijah T.	Hazel
Payne, Foster	Forbes, N. D.
Peterson, Eddie	Astoria
Peterson, Lawrence A.	Virgil
Petry, Anna M.	Hawarden, Iowa
Pirlet, Harry M.	Lake Preston
Prunty, Francis P.	Andover
Prunty, Glenn	Hartford
Rand, Albert	Howard
Reese, Gertrude	Crow Lake
Roberts, William T.	Chicago, Ill.
Seide, Edwin F.	Milbank
Shook, Mabel	Kyle
Sinkie, G. H.	Duncan
Slade, Allan	Fulton
Sloan, James E. Jr.,	Brookings
Sloat, Ben C.	Lowry
Sloat, Roy H.	Lowry
Smith, Maurice G.	Henry
Solberg, Marie	Gary
Spear, Kenneth M.	Draper
Spear, Mary A.	Draper
Sullivan, Wm.	Montrose
Svien, Helmer H.	Wallace
Swanson, Elmer	Hawarden, Iowa
Thompson, Liza	Letcher
Twidwell, Mabel	Brookings
Van Allen, Arthur J.	Gayville
Wallace, Henry H.	Britton
Wallace, Norman	Britton

Wallace, Percy J.	Britton
Wilcox, Mae	Brookings
Wilcox, Samuel	Brookings
Witzel, Ray A.	Artesian
Witzel, Roy	Artesian
Zimprich, Joseph	Grover

SHORT COURSE STUDENTS.

STEAM ENGINEERING.

Aasland, Andrew F.	Waubay
Arbogast, Lawrence Edward	Elrod
Aust, Oscar Palmer	Burbank
Baker, Loren E.	Platte
Barboe, Oscar M.	Alcester
Bingham, Charles Perry	Redfield
Blau, Albert John	Tea
Bryson, Robert	Turtle Lake
Christianson, Edward	Volga
Clemen, Joseph L.	Ipswich
Erickson, Carl	Centerville
Forbes, Cyrus O.	Woonsocket
Gatzke, Walter	Tulare
Groeneveld, Ontje John	Tea
Gunderson, Herman Emil	Hurley
Hansen, Jens	Oldham
Howe, Louis	Montrose
Janett, Robert	Conde
Johnson, Olaf H.	Effington
Jordal, Erling A.	Mt. Vernon
Julson, Juel	Garretson
Klungness, John	Garretson
Krell, Arthur Joseph	Sioux Falls
Kukuk, Simon	Colman
Labrie, Oliver J.	Frankfort
Larsen, Harry	Vienna
Mears, Max	Brookings
Meirs, George	Avon
Moe, Joseph J.	Baltic
Monson, Frederick	Waubay
Morris, Frank A.	Brookings
Nelson, Nels	Gayville
Nesson, Robert Allison	Brookings
Petersmeyer, Albert	Tulare
Pottratz, Ernest	Ward
Reusch, Joseph Thomas	Ramona
Rostad, Albert	Gross

Seaver, Willis B.	Garden City
Sinning, Albert F.	Lennox
Smitback, Teddy E.	Lake Preston
Soderstrom, Edwin	Beresford
Sundstrom, Eschol	Beresford
Svenson, Alfred Joel	Ethan
Tollefson, Benjamin R.	Willow Lakes
Tuttle, Marvin A.	Arlington
Unger, Roy E.	Arlington
Vasgaard, John E.	Centerville
West, Verne	Brookings
Westgard, Oscar	Astoria
Williams, Owen	Ipswich
Yager, Frank	Centerville

THREE MONTHS' CREAMERY COURSE.

Albertson, Enos	Summit, S. D.
Alness, H. B.	Canton
Dencker, Karl	Hot Springs
Dokter, J. J.	Andover
Du Bois, L. S.	Hitchcock
Englund, Oscar	Strandburg
Gerner, C. A.	Platte
Hartwig, Carl A.	Watertown
Hinch, Lloyd	White
Ives, C. A.	St. James, Minn.
King, Charles	Brookings
Levisen, Jas.	Stockholm
Macchiaroli, M.	Milesville, S. D.
Maaher, Neal	Brookings
Meehan, T. A.	Franklin, Ohio
Moen, Ole G.	Hudson
Nelson, Herman P.	Wakonda
Nusbaum, Chas.	Pulaski, Ia.
Peterson, Peter James	New England, N. D.
Schafrer, Richard	Carthage
Schloredt, Fred C.	Sundance, Wyoming
Schrader, Fred John	Lake Preston
Short, Omar	Brookings
Trelstad, Paul	Sisseton

THREE MONTHS' HOME ECONOMICS COURSE.

Brusveen, Cora	Brandon
Deville, Katie	Watertown
Johnson, Sadie E.	Pierpont
Matson, Luella	Lake Preston
Mikkelson, Ogla	Wakonda

Murphy, Grace M.	Montrose
Mydland, Galena	Lake Preston
Nelson, Jennie	Gayville
Nelson, Marie	Wakonda
Overgaard, Lillian	Centerville
Overgaard, Eleanor	Centerville
Peterson, Christina	Balaton, Minn.
Ringsrud, Randine	Elk Point
Sakariason, Selma	Webster
Smedsrud, Emelia	Russell, Minn.

TWO WEEKS COURSE IN AGRICULTURE.

Bergstrom, Albin	Tyler, Minn.
Boxeth, Albert	Summit, S. D.
Christoffersen, Alfred	Lake Preston
Daley, Robert H.	Yale
Danielson, Hilmer	Hayti
Emmons, D.	Seim
Gill, George	Hitchcock
Gross, Joe W.	Freeman
Hansen, Ralph	Crandon
Hanson, G.	Hayti
Horner, R. G.	Toronto
Kittleson, Elwin	Henry
Kroff, Otto	Cavour
Larson, Howard	Brookings
Lindsey, David	Brookings
Madison, Martin	Manchester
Mortensen, Harold	Estelline
Nolte, Ferd.	Butler
Prose, Lowell	Wolsey
Roe, Palmer N.	Canton
Scott, A. J.	Letcher
Sinkie, G. H.	Duncan
Strom, Edward	Beresford
Sundstrom, Clifford	Beresford
West, F. E.	Hayti
Zamow, Roy	Watertown

THREE WEEKS' AUTOMOBILE COURSE.

Baker, L. E.	Touchet, Washington
Barboe, Oscar M.	Sioux City, Iowa
Carlson, Isaac	Beresford, S. D.
Dutt, Earling	Beulah, Wyoming
Ebeling, J. D.	Marion, S. D.
Edmundson, Holden	Garretson, S. D.
Fry, A.	Brookings, S. D.

Haag, Oscar	Frankfort, S. D.
Holle, Merle	Brookings, S. D.
Heeren, W. F.	Lennox, S. D.
Hendricks, J. M.	Sioux City, Iowa
Henry, G. C.	Brookings, S. D.
Horsley, Geo.	Sioux City, Iowa
Jones, M. A.	Mitchell, S. D.
Karr, W. A.	Brookings, S. D.
Korstad, John	Brookings, S. D.
Krause, F. W.	Centerville, S. D.
Kukuk, Walter T.	Colman, S. D.
Kukuk, Edward O.	Brookings, S. D.
Lane, W. H.	Miller, S. D.
McDonald, Harold	Vermillion, S. D.
Mueller, Robert F.	Madison, S. D.
Nelson, A. N.	Lake Preston
Nelson, Ole	Tabor
Paulson, Mads	Yankton
Roe, Palmer N.	Canton, S. D.
Selvig, Henrik	Dell Rapids
Senn, Edward W.	Hendricks, Minn.
Swerson, Freddie	Humboldt, S. D.
Simonson, Clarence	Volga, S. D.
Slade, Allan	Fulton
Snook, Geo.	Windom, Minn.
Soderstrom, Edwin	Beresford, S. D.
Sundstrom, Eschol	Beresford, S. D.
Swenehart, John	Brookings, S. D.
Tate, W. P.	Ipswich, S. D.
Thayer, W. S.	Brookings, S. D.
Witzel, Leon E.	Artesian, S. D.
Zimprich, Joseph E.	Grover, S. D.

SUMMER SCHOOL STUDENTS.

Ammons, Ruth	Aurora
Anderson, Casper	Volga
Anderson, Mabel	Estelline
Armstrong, Gladys	Brookings
Arnott, Edw. E.	Aurora
Arthur, Shirley	Brookings
Arvidson, Mae	Arlington
Bacon, Evangeline	Brookings
Bagley, Frances	Brookings
Bane, Harriet	Aurora
Bane, Mae	Aurora
Bennett, Mary	Arlington
Binnewies, Mabel	Brookings

Blakely, Herbert	Brookings
Blakely, Mary	Brookings
Bogstie, Emma	Brookings
Boyd, Mary	Brookings
Brictson, Charmian	Brookings
Brictson, Thelma	Brookings
Browning, Ruth	Brookings
Buck, Florence	Bruce
Bulger, Bessie	White
Burnham, Esther	Bushnell
Buton, May	Carthage
Canfield, Ethel	Brookings
Carlisle, Frances	Brookings
Carlson, Esther	Bruce
Casserly, Sadie	Elkton
Chappell, Bess	Brookings
Christianson, Ida	Volga
Copping, Edna	Bushnell
Cotton, Bernice	Bruce
Dalthrop, Chas.	Volga
Davis, Clara A.	Brookings
Denhart, Avis	White
Dewing, Sara	Brookings
Donaldson, Frances	Brookings
Dunbar, Mrs B. A.	Brookings
Eastwood, Louisa	Bruce
Ehrenreich, Ida	Brookings
Eide, Anna	Brookings
Elston, Gladys	Aurora
Elston, Hazel	Aurora
Enos, Winnifred	Brookings
Enright, Mary	Brookings
Erickson, Lottie	Bruce
Erickson, Minnie	Bruce
Erie, Frances	Brookings
Etting, Doris	Brookings
Etting, Ruth	Brookings
Fenn, Etola	Brookings
Fenn, Florence	Brookings
Fjerestad, Julia	Brookings
Fjeseth, S. P.	Hendricks, Minn.
Fleming, Julia	Elkton
Fleming, Loretta	Elkton
Forsee, Mrs. R. B.	Brookings
Forsee, R. B.	Brookings
Forseth, Gina	Hendricks, Minn.
Francis, Ada	Mound City

Freeman, Ethel	Volga
Friedel, Amanda	Bruce
Fuller, Edda	Elkton
Gehant, Marie	Aurora
Getty, Janey	Brookings
Glen, Mary	Aurora
Gregor, Susie	Elkton
Grinols, Hazel	Brookings
Grinols, Mavis	Brookings
Grinols, Violet	Brookings
Gunderson, Ida	Volga
Haas, Carrie	Arlington
Handwerk, Gertrude	Brookings
Hanson, Otto	Brookings
Heck, Anna	Elkton
Heck, Elizabeth	Elkton
Heiser, Marie	White
Hibbs, W. H.	Highmore
Hinch, Iva	White
Horton, Ralph	Volga
Hastings, Martha	Bruce
Hoffman, Martha	Bruce
Holland, Elizabeth	Elkton
Hough, Orilla	Brookings
Irish, Mabelle	Brookings
Iverson, Selma	Brookings
Jamison, Nellie	White
Jarman, Maebell	Brookings
Jarvis, Ruth	Brookings
Jensen, Dean	Brookings
Jensen, Gladys	Brookings
Jerde, Edna	Brookings
Jessen, Lora	White
Johnson, Ila	Brookings
Johnston, Maud	Bruce
Judd, Laura	Bushnell
Karlstad, Julia	Brookings
Karlstad, Selma	Brookings
Karr, Hazel	Brookings
Kerger, Lizzie	Arlington
Kirby, Mae	Volga
La Due, Leora	Volga
La Due, Pearl	Volga
Lieske, Anna	Arlington
Looysen, Sara	White
Lorden, Agnes	Elkton
Lorden, Rosa	Elkton

Lynch, Ruth	Brookings
Marvin, Mrs. A. F.	Brookings
McEachran, Jeannette,	Brookings
McEachran, Florence	Ipswich
McCarty, Rosalia	Elkton
Marshman, Grace	Brookings
Mears, Hazel	Brookings
Moe, Chas.	Bruce
Moffatt, Margaret	Brookings
Morris, Effie	Brookings
Morris, Elsie	Brookings
Mortensen, Johanna	Bruce
Murphy, Lina	Oldham
Nelson, Fred A.	Elkton
Nesson, Grace	Brookings
Nord, Florence	Brookings
O'Leary, Mary	Elkton
Olson, Carrie	Bruce
Olson, Clarence	Brookings
Otterness, Ida	Brookings
Palmer, Alta	Brookings
Parker, Mrs. Alfred	Bruce
Parks, Eva	Bushnell
Peirce, E. Esther	Brookings
Perry, Jennie	Brookings
Peterson, Helen	Brookings
Plumb, Rose	Bruce
Puhr, Edw.	Bushnell
Pultz, Ella	Brookings
Pratt, Gladys	Elkton
Reppe, Ben	Hendricks, Minn.
Revell, Alma	Brookings
Revell, Grace	Brookings
Revell, Marie	Brookings
Ridout, Grace	Brookings
Ringgenberg, Maybelle	Elkton
Roberts, Ina	Elkton
Roberts, Mrs. T. H.	Volga
Ross, Ethel	Arlington
Ryger, Margarette	Brookings
Sabo, Julia	Arlington
Sample, Evangeline	Brookings
Sarvis, Mrs. J. T.	Brookings
Searls, Burdette	Brookings
Seivert, Rose	Elkton
Seivert, Vera	Elkton
Sell, Bertha	Lismore, Minn.

Seymour, Mrs. A. H.	Volga
Scheetz, Myrtle	Bruce
Sheldon, Nettie	Brookings
Sherwood, Lila	White
Smith, Mamie	Brookings
Soule, Neva	Brookings
Soule, Ruth	Brookings
Short, Grace	Brookings
Spaulding, Ruth	Flandreau
Stead, Reva	Arlington
Stearns, Mae	Brookings
Strong, Loretta	Elkton
Sutton, Mabel	Brookings
Svenn, Olga	Brookings
Thorsness, Anna	Sinai
Tinker, Mabel	Brookings
Towey, Alice	Elkton
Ullom, Edna	Flandreau
Vahle, Marie	Tracy, Minn.
Vandanacker, Mae	Alexander
Walters, Daisy	Bruce
Wheeler, Allan	Arlington
Wilcox, Madeline	Brookings
Wilson, Ella	Elkton
Yule, Gertrude	Brookings

SUMMARY.

Graduate Students		9
Collegiate Students—		
Seniors	34	
Juniors	37	
Sophomores	50	
Freshman	101	
Specials	20	
		242
Preparatory Students—		
Third Year	40	
Second Year	18	
First Year	36	
		94
Music Students		104
School of Agriculture—		
Third Year	28	
Second Year	39	
First Year	105	
		172
Short Course Students—		
Steam Engineering	51	
Three Months' Creamery Course	24	
Three Months' Home Economics	15	
Two Weeks' Agriculture (Lectures)	26	
Three Weeks' Automobile Course	39	
		155
Summer School Students		179
Total		955
Names Repeated		104
Total Enrolled Attendance		851

CATALOG

1913-1914

South Dakota State College

Brookings, South Dakota

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LOCATION

The State College of Agriculture and Mechanic Arts is located upon an eminence one mile from the business center of the city of Brookings, and four miles from the Big Sioux River. Brookings is situated on the Central Dakota Division of the Chicago and North-Western Railway, the Watertown branch of the same road making connection with the main line at this point. The city has a population of about three thousand five hundred thrifty, intelligent and hospitable people. It is lighted by electricity and has a complete water and sewer system, owned by the municipality.

The streets are lined with trees and there are very few houses without well kept lawns, upon which are growing trees, beautiful flowering shrubs and plants. It has often been called the City of Homes.

It is a city of clean morals. No saloon has been allowed within its limits for several years. In the general election of 1896 Brookings County was the banner county of the state in its vote against allowing intoxicating liquors to be sold in the state. In the spring election of 1898 the proposition to allow saloons within the city limits was defeated by a vote of three to one.

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STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS
SOUTH DAKOTA
STATE OF SOUTH DAKOTA
UNDER GOD THE PEOPLE RULE
GREAT (1889) SEAL

1913
MARK D. SCOTT PRINT
SIOUX FALLS, S. D.

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3-14.

Vol. VI April, 1914 No. IV

South Dakota State College of Agriculture and Mechanic Arts Bulletin

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Annual Catalog
1913-1914

RECEIVED
JUN 25 1914
PRESIDENT'S
OFFICE
OF ILLINOIS

Published Quarterly by
THE SOUTH DAKOTA STATE COLLEGE
Brookings, S. D.

Entered as second-class matter August 10, 1908, at the postoffice at Brookings, S. D., under Act of July 16, 1904

THE COLLEGE BULLETIN

The South Dakota State College Bulletin is published quarterly by authority of the Regents of Education.

The Bulletin contains information in detail relative to the entrance requirements of the different courses of instruction, the schedules of study, lists of instructors of the institution and its administration, equipment, organizations, publications, funds, students' expenses, scholarships, prizes, etc.

The institution includes the following college departments: Animal Husbandry, Dairy Husbandry, Agronomy, Horticulture and Forestry, Veterinary Medicine, Home Economics and Domestic Art, Mechanical, Electrical and Civil Engineering, English, Modern Languages, History and Political Science, Philosophy, Mathematics and Astronomy, Physics, Botany, Entomology and Nature Study, Zoology, Chemistry, Pharmacy, Music, Art, Military Science and Tactics, and Commercial Science.

There are also the Preparatory Department, the Agricultural Experiment Station and the School of Agriculture.

Additional short special courses of instruction are given in Agriculture, Dairying, Home Economics and Steam Engineering. Correspondence courses are also being arranged in Agriculture, Nature Study and Home Economics. Bulletins are sent free, postage paid, on request. The request should indicate the department concerning which information is desired.

Address: The President, State College, Brookings, South Dakota.

Vol. VI April, 1914 No. IV

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Statement of the Ownership, Management, Circulation, Etc.

of South Dakota State College of Agriculture and Mechanics Arts Bulletin published quarterly at Brookings, South Dakota, required by the Act of August 24, 1912.

Name of	Post Office Address.
Editor, G. L. Brown (Acting President of College)	Brookings, South Dakota
Publisher, South Dakota State College of Agriculture and Mechanic Arts	Brookings, South Dakota
Owners, South Dakota State College of Agriculture and Mechanic Arts	Brookings, South Dakota

Known bondholders, mortgagees, and other security holders, holding 1 per cent. or more of total amount of bonds, mortgages, or other securities: None.

G. L. BROWN,
Acting President of College.

Sworn to and subscribed before me this 10th day of March, 1914.

R. A. LARSON,
(Seal.) Notary Public.

(My commission expires June 5, 1917.)

Calendar of 1914-15

FIRST SEMESTER.

1914.

June 15-July 24—Six weeks Summer School.
September 17-18-19—Entrance examinations and registration.
September 21—Work of first semester begins at 8 o'clock a. m.
November 2—Last day for announcing subjects of theses.
November 2—School of Agriculture opens.
November 26-27—Thanksgiving recess.
December 22—Christmas vacation begins at 4:15 p. m.

1915.

January 12—Christmas vacation ends at 8:00 a. m.
February 1-5—Examination week.

SECOND SEMESTER.

February 9—Second semester begins at 8:00 a. m.
April 1—School of Agriculture closes.
May 24—Senior vacation begins.
May 31-June 4—Examination week.
June 6—Baccalaureate Sunday.
June 9—Commencement exercises at 10:30 a. m.

Calendar of Short Courses

December 14-18—One week's course for cream testers.
January 12-June 4—Course in traction engineering.
January 12-April 1—Three months' creamery course.
January 4-January 9—Farmers' week, one week's course in agriculture and home economics.
May 24-June 4—Automobile course.

Regents of Education

Hon. Albert M. Anderson	Sturgis
Hon. A. E. Hitchcock	Mitchell
Hon. T. W. Dwight	Sioux Falls
Hon. August Frieberg	Beresford
Hon. M. P. Beebe	Ipswich

Officers of the Board

Hon. A. E. Hitchcock	President
Hon. F. W. Ford	Secretary
Hon. A. W. Ewert (State Treasurer)	Treasurer

Regents' Committee for the College

Hon. T. W. Dwight........................Hon. M. P. Beebe

*Faculty

****ROBERT LINCOLN SLAGLE, A. M., Ph. D., President.**

A. B., Lafayette College, 1887; A. M., Lafayette College, 1890; Ph. D., Johns Hopkins University, 1894; Assistant to Professor W. O. Atwater in food investigation, Middletown, Connecticut, and New York City, 1894-1895; Professor of Chemistry, South Dakota Agricultural College, 1895-1897; President and Professor of Chemistry, South Dakota School of Mines, 1897-1905; present position since 1906.

JAMES HENRY SHEPARD, B. S., Professor of Chemistry.

B. S., University of Michigan, 1875; post-graduate student in University of Michigan, 1881-1882; Instructor in Natural Sciences, Ypsilanti, Michigan, High School, 1882-1886; present position since 1888.

HALVOR CHRISTIAN SOLBERG, M. E., Professor of Mechanical and Steam Engineering.

B. S., South Dakota Agricultural College, 1891; B. M. E., Purdue University, 1895; M. E., Purdue University, 1896; Professor of Practical Mechanics, South Dakota Agricultural College, 1891-1896; present position since 1896.

NIELS EBBESEN HANSEN, M. S., Professor of Horticulture and Forestry.

B. S., Iowa Agricultural College, 1887; M. S., Iowa Agricultural College, 1894; Commercial Iowa Nurseries, Atlantic and Des Moines, 1888-1891; Assistant Professor in Horticulture, Iowa Agricultural College, 1891-1895; studied in Europe, 1894; Agricultural Explorer for U. S. Department of Agriculture to Europe and Asia, 1897-1898, and 1906-1907; to Siberia, Turkestan and Algiers, 1908-1909; for South Dakota, to Siberia, 1913; present position since 1895.

HUBERT BERTON MATHEWS, M. S., Professor of Physics.

B. S., South Dakota Agricultural College, 1892; M. S., South Dakota Agricultural College, 1899; pursued special work at various times in the Universities of Michigan, Wisconsin and Nebraska; Superintendent of City Schools, Clark, S. D., 1892-1893; Assistant in Chemistry and Physics, South Dakota Agricultural College, 1896-1899; Professor of Physics and Electrical Engineering, 1899-1909; Vice-President, 1904-1906; present position since 1909.

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*With the exception of the president, the names occur in the order of appointment.

****Transferred to the Presidency of the University of South Dakota, February, 1914.**

BOWER THOMAS WHITEHEAD, M. S., Ph. C., Professor of Pharmacy.

Ph. G., South Dakota Agricultural College, 1895; Ph. C., Northwestern University, 1896; B. S., South Dakota Agricultural College, 1897; M. S., South Dakota Agricultural College, 1901; Instructor in Pharmacy, South Dakota Agricultural College, 1895; present position since 1896.

GEORGE LINCOLN BROWN, Ph. D., Acting President and Professor of Mathematics.

B. S., University of Missouri, 1892; Teaching Fellow in Mathematics, 1892-1893; M. S., 1893; Fellow in Mathematics, University of Chicago, 1894-1896; Ph. D., University of Chicago, 1900; Professor of Mathematics, South Dakota Agricultural College, 1897-1910; Acting President South Dakota State College, summer and fall of 1908; Dean of the faculty, 1910; Vice-President, 1913; present position since February, 1914.

ADA BERTHA CALDWELL, Professor of Industrial Art.

Student Art Institute of Chicago, 1893-1897; Instructor in Art, Yankton College, 1897-1899; Professor of Industrial Art, South Dakota Agricultural College, 1899-1907; student Teachers' College, N. Y., and Chase School of Art, N. Y., 1903-1904; student Summer Course Handicraft Guild, Minneapolis, 1905, 1906 and 1907; student Commonwealth Art School, Maine, during summer, 1910; present position since 1907.

ALBERT SPENCER HARDING, A. M., Professor of History and Political Science.

B. S., South Dakota Agricultural College, 1892; Fellow in American History, University of Nebraska, 1896-1897; A. M., University of Nebraska, 1897; Assistant in History and Civics, South Dakota Agricultural College, 1897-1900; student University of Wisconsin, 1898, and summer session, 1907; Instructor in American History, University of Nebraska, Summer Session, 1909; present position since 1901.

ROBERT BLACKWOOD FORSEE, Pe. P., Principal of Preparatory Department.

Principal of Pedagogy, Western College, Missouri, 1888; Principal of Schools at Elgin, Mo., 1889-1891; at Steffenville, 1892-1893; at Estelline, South Dakota, 1895-1896; County Superintendent Hamlin County, South Dakota, Schools, 1896-1900; present position since 1901.

JAMES WILBUR WILSON, M. S. A., Director of the Experiment Station and Professor of Animal Husbandry.

B. S. A., Iowa Agricultural College, 1896; M. S. A., Iowa Agricultural College, 1898; Assistant in Agriculture, Iowa Agricultural College, 1896-1897; Private Secretary to Secretary of Agriculture, 1897-1900; present position since 1902.

WILLIAM HOWARD POWERS, A. B., M. A., Librarian and Associate Professor of English.

A. B., Miami University, 1891; A. M., Harvard University, 1899; student in the Graduate School, Harvard, 1899-1901; Instructor in Mathematics, Ohio Normal University, 1888-1889; Master of the High School, Marwich, Massachusetts, 1892-1895; Head of the Department of English, High School, Pawtucket, Rhode Island, 1895-1898; Professor of English, Huron College, 1901-1905; present position since 1905.

CHRISTIAN LARSEN, M. S. A., Professor of Dairy Husbandry.

B. S. A., Iowa State College, 1902; M. S. A., Iowa State College, 1904; studied European dairying, 1900; Dairy Instructor, Massachusetts Agricultural College, 1901; Assistant and Associate Professor of Dairying, Iowa State College, 1902-1906; Professor of Dairy Husbandry, Utah Agricultural College, 1907; present position since 1907.

MADISON CLAIR BATES, A. M., Professor of English.

A. B., Williams College, 1904; A. M., Williams College, 1905; A. M., Harvard University, 1906; Instructor in English, University of Illinois, 1906-1907; Scholar in English, Graduate School, Columbia University, 1909-1910; present position since 1907.

BYRON BRIGGS BRACKETT, A. M., Ph. D., Professor of Electrical Engineering.

A. B., Syracuse University, 1890; A. M., Syracuse University, 1893; Certificate of Proficiency in Electrical Engineering, Johns Hopkins University, 1895; Ph. D., Johns Hopkins University, 1897; Teacher of Mathematics, Dickinson Seminary, Williamsport, Pa., 1890-1892; Teacher of Higher Mathematics and Mechanical Drawing, Collegiate Department of Adelphi Academy, Brooklyn, N. Y., 1892-1893; student-instructor, Electrical Engineering Department of Johns Hopkins University, 1894-1897; Instructor in Electrical Engineering, Union College, 1897-1898; Teacher of Physics, Eastern High School, Washington, D. C., 1898-1900; Instructor in Electrical Science, Rutgers College, 1901-1903; Professor of Physics and Electrical Engineering, Clarkson School of Technology, 1903-1908; Professor of Electrical Engineering, Clarkson School of Technology, 1908-1909; Inspector of Torpedo Cable for U. S. Army, summer of 1898; Electrical Engineering for Rowland Telegraphic Company, Baltimore, Md., 1900-1901; present position since 1909.

NOLA K. FROMME, B. S., Assistant Principal, School of Agriculture.

B. S. in Domestic Science, Ohio State University, 1905; Instructor in Home Economics, South Dakota State College of Agriculture and Mechanic Arts, 1907-1909; present position since 1909.

HARRY C. SEVERIN, B. A., M. A., Professor of Entomology and Nature Study.

B. A., University of Wisconsin, 1906; M. A., Ohio University, 1908; Fellow in Zoology and Entomology, Ohio State University, 1908-1909; Assistant to State Entomologist, Illinois, summer of 1909; present position since 1909.

ROBERTSON COOK, M. E., Professor of Experimental Engineering.

M. E., University of Minnesota, 1902; Assistant Instructor in Mechanical Engineering, University of Minnesota, 1903; engineer with Oliver Iron Mining Company, Duluth, Minnesota, 1904; Mechanical Engineer for the Western Lime and Cement Company, Milwaukee, Wisconsin, 1904-1908; Instructor in Mechanical and Steam Engineering, 1908-1910; present position since 1910.

SHIRLEY PUTNAM MILLER, B. S., M. A., Professor of Zoology.

B. S., South Dakota State College. 1903; M. A., University of Minnesota, 1905; student at Minnesota Sea-side Laboratory, Vancouver Island, 1902-1904; Instructor in Zoology, South Dakota State College, 1905-1908; student at the Anatomical-Biological Institute, Berlin, and the University of Munich, 1908-1910; investigator in Russian Zoological Laboratory, Villafranche, on the Mediterranean; present position since 1910.

GEORGE ARTHUR STARRING, A. B., Professor of Commercial Science; Agricultural Editor.

A. B., Huron College, 1907; graduate Huron Business College; student Rochester Seminary, N. Y., 1907-1908; of University of Chicago, 1908-1909; Summer Quarter, University of Chicago, 1909; Instructor in Commerce and Economics, Sioux City High School, 1909-1910; Professor of Commerce, South Dakota State College, 1910; present position since 1911.

MARY TOUGH, Professor of Home Economics.

Graduate Normal Domestic Science Department of Pratt Institute, 1898; Instructor in Domestic Science and Art in Chicago University School of Education, 1898-1901; Instructor in Normal Domestic Science Department in Pratt Institute, 1901-1910; present position since 1910.

ALBERT NASH HUME, B. S. A., M. S., Ph. D., Professor of Agronomy.

B. S. A., Purdue University, 1900; M. S., Purdue University, 1902; Live Stock Husbandman, North Louisana Experiment Station; Instructor in Agriculture, Wenona Agricultural Institute, 1903; Instructor, Associate, Assistant Professor of Crop Production, University of Illinois and Agricultural Experiment Station, 1904-1911; student Leipzig, Germany, winter semester, 1908-1909; student Goettingen, Germany, summer semester, 1909 to winter semester, 1910; Ph. D., Goettingen, December, 1910; present position since 1911.

JOSEPH GLADDEN HUTTON, S. B., M. S., Associate Professor of Agronomy.

Graduate of Indiana State Normal School, Terre Haute, 1899; S. B., University of Chicago, 1908; M. S., Univeristy of Illinois, 1910. Teacher in Indiana District Schools, 1891-1895; Assistant in Biological Laboratory, Indiana State Normal School, 1898-1899; Instructor in Physiology, Indiana State Normal School, 1899-1900; Curator's Assistant, Marine Biological Laboratory, Wood's Hole, Mass., Summer, 1901; Principal of Beardstown (Ill.) High School, 1901-1903; Superintendent of Schools, Beardstown (Ill.), 1903-1908; Instructor in Psychology, Indiana State Normal School, Summer, 1908; Assistant in Geology and Graduate Student in Botany, Geology and Soils, University of Illinois, 1908-1911; Field Assistant, Illinois State Geological Survey, Summer, 1909; present position since 1911.

GARNETT HEDGE, Mus. Bac., Professor of Music.

Graduated from Des Moines Musical College, Des Moines, Iowa, 1894; post-graduate in same institution, 1896; studied with Karleton Hackett, American Conservatory, Chicago, 1897-1898; taught in American Conservatory, sang with Castle Square Opera Co., and studied with Arthur Beresford, 1898-1899; taught at Heading College, Abingdon, Ill., 1899-1900; Supervisor of Public School Music, Lead and Deadwood (S. D.) schools, 1900-1903; taught in Auditorium Bldg., Chicago, 1903-1910; traveled with Minneapolis Symphony Orchestra, 1908-09-10 and with Thomas Orchestra, February, 1910; studied summer 1909 with Madame Friedenburg, New York; Dean of Huron College School of Music, Huron, S. D., 1910-1912; present position since 1912.

BENJAMIN LEE THOMPSON, B. Sc., Associate Professor of Animal Husbandry.

B. Sc. in Agriculture, Ohio State University, 1908; Professor of Animal Husbandry and Dairying, Dunn County School of Agriculture, Menominee, Wis., 1908-1909; Instructor in Animal Husbandry, South Dakota State College, 1909-1912; present position since 1912.

B. A. DUNBAR, Associate Professor of Chemistry.

A. B., Ohio Wesleyan University, 1891; A. M., Ohio Wesleyan University, 1892; Instructor in Mathematics and Physics, Hillsboro Normal College, Hillsboro, Ohio, 1891-1893; Instructor in Physics, High School, Ironton, Ohio, 1893-1895; Supt. of Schools, Michigan, Wyoming, Minnesota and North Dakota, 1895-1910; student in Chemistry, University of Chicago, 1909-1910; Assistant Professor of Chemistry, South Dakota State College, 1911-1912; present position since 1912.

CHRISTY WILLIAM MICHEL, A. M., Professor of Botany.

A. B., Litt. B., Ohio Wesleyan University, 1904; A. M. Harvard University, 1912; elected Austin Scholar in Botany, Graduate School, Harvard University, 1911, and Scholar in Yale University, for the same year; received appointment as assitant in Botany, Harvard University, 1912, and Fellow in Botany in the University of Wisconsin; student, Harvard University, second semster of 1905-06 and the year of 1911-12; Ohio State University, 1908-09; Supt. of Schools, Mercer, Ohio, 1904-05; Prof. of Biology, Defiance College, 1906-1908 and 1909-1911; present position since 1912.

OSCAR FOLEY, First Lieutenant U. S. Cavalry, Professor of Military Science and Tactics.

Graduate U. S. Military Academy, West Point, N. Y., 1902; Philippine Islands, 1902-1903, and 1908-1909; present position since 1913.

HARRY W. EWING, Professor of Physical Education.

Student University of Nebraska, Academic Courses 1904-1907; completed work necessary for LL. B. degree, University of Nebraska, 1910; Assistant Coach, University of Nebraska, 1910-1911; Director of Athletics, Morningside College, 1911-1912; present position since 1912.

JOHN M. FULLER, B. S., Associate Professor of Dairy Husbandry.

B. S. in dairying, Iowa State College, 1911; Associate Editor, Orange Judd Weeklies, 1911-12; Instructor in Dairy Husbandry 1912-13; present position since 1913.

BERTRAM EVERETT McPROUD, A. B., A. M., Professor of Education.

A. B. Baker University, 1900; Supt. of Schools, Oskaloosa, Kansas, 1900; Supt. City Schools North Bend, Nebraska, 1902; A. M. Baker University, 1904; Professor of Latin, University of Puget Sound, 1904; Vice President and Professor of Latin and Pedagogy, University of Puget Sound 1905; Instructor and Principal of the Academy, Baker University, 1907; Graduate Student in Education and Psychology, University of Chicago, Summer Quarter, 1908; also year of 1908-9; Dean of Teachers' College and Professor of Education Nebraska Wesleyan University, 1909; present position since 1913.

ALBERT JONES WILLIS, C. E., Professor of Civil Engineering.

C. E., Lehigh University, 1905; Asst. Engineer of Construction and Repair, Bethlehem Steel Co., 1905-1906; Instructor in Civil Engineering, Lehigh University, 1906-1908; Instructor in Civil Engineering, Armour Institute of Technology, 1908-1910; Structural Draftsman with C. M. & St. P. R. R., Summer of 1909; Structural Steel Draftsman and Checker with the Guerber Engineering Co., summers of 1910, 1911, 1912; Instructor in Civil Engineering, Cooper Union, New York City, 1910-1913; in charge of property survey and laying out of public roads in Cambria County, Pa., summer of 1913; Assoc. M. Am. Soc. C. E.; present position since 1913.

BELLA SPENCER, A. B., Professor of Modern Languages.

A. B. Kansas State Univ., 1899; Student of Prof. Heine, Univ. Goettingen, Germany, 1898-1899; Student of Prof. Schweizer-Siedler and Dr. Tobler, Univ. of Zurich, Zurich, Switzerland, 1899-1904; Instructor of Modern Language, City High School, Portland, Oregon, 1904-1905; Instructor in Modern Language, LaSalle-Peru Township H. S. LaSalle, Ill.; present position since 1913.

CHARLES CLINTON LIPP, D. V. M., Professor of Veterinary Medicine.

Student Poland Union Seminary, North Eastern Ohio Normal College; D. V. M. Ohio State University, College of Veterinary Medicine; present position since 1913.

ERNEST D. STIVERS, B. S., Professor Secondary Agricultural Education; Director of Summer School.

B. S., Iowa State College, 1901; Science Teacher, High School, Mason City, Ia., 1901-1904; Superintendent of Schools, Parker, S. D., 1904-1910; Student taking special work in Agriculture, Iowa State College, 1910-1911; Principal of Agricultural High School, Prescott, Arkansas, 1911-1912; Agricultural Editor, International Correspondence Schools, Scranton, Pa., 1912-1913; present position since 1913.

WILLIAM MONROE MAIR, Superintendent of Boys' and Girls' Clubs.

Studied three years in Oberlin College and Theological Seminary; traveled in Europe one year; Principal of the Public Schools of Garretson two and a half years; County Superintendent of Schools in Minnehaha County four years; present position since 1913.

Instructors and Assistants

HOWARD H. HOY, B. S., M. S., Assistant Professor of Physics and Electrical Engineering.

B. S., South Dakota Agricultural College, 1896; M. S., South Dakota Agricultural College, 1903; pursued special work in electrical engineering in the Universities of Nebraska and Wisconsin; Instructor in Mechanical and Electrical Engineering, South Dakota Agricultural College, 1899-1904; present position since 1904.

MAUD GODDARD, Assistant Professor of Industrial Art.

Student Art Institute, Chicago, 1903; Student Summer Course, School of Fine Arts, Minneapolis, 1907; Student Chautauqua Summer School, N. Y., 1909; Student Commonwealth Art School, Maine, Summer of 1910; present position since 1903.

CARL CHRISTENSEN, Assistant Professor of Music, Violin and Other Instruments.

Student under Professor Christian Madsen, of Copenhagen, Denmark; also studied with C. F. Toenniges, of Davenport, Iowa, 1900-1901; with Alfred Speil, Minneapolis, 1908-1909; and with William McPhail, Minneapolis, Summer of 1912; present position since 1906.

CHAS. F. SCHLATTER, B. S., Assistant Professor of Commercial Science.

B. S., Southern Iowa Normal, 1902; Instructor in Mathematics, Southern Iowa Normal, 1904-1905; Instructor in Pedagogy, Southern Iowa Normal, Summer Quarter, 1905; graduate Gem City Business College, 1906; student Drake University, Summer Quarters, 1909 and 1910; Superintendent of Schools, Dunlap, Illinois, 1906-1907, 1907-1908, and 1908-1909; Instructor in Commerce, Sioux City High School, 1909-1910; Principal Department of Commerce, La Salle-Peru Township High School, La Salle, Illinois, 1910-1911; present position since 1911.

W. ALBERT PETERSON, Mus. Bac., Assistant Professor of Music.

Qualified as teacher, Illinois Wesleyan Conservatory, 1901; graduate American Conservatory, Chicago, 1909; post-graduate same institution, 1911; pupil of Allen Spencer, pianist, and Adolf Weidig and Geo. Colburn, harmony, counter-point, composition, etc.; Instructor, Huron College, Huron, S. D., 1911-1912; present position since 1912.

GERTRUDE S. YOUNG, A. B., Instructor in Preparatory Department.

A. B., University of Wisconsin, 1906; present position since 1907.

DEXTER E. BAILEY, Assistant in Dairy Husbandry.

B. S., Massachusetts Agricultural College, 1910; present position since July, 1910.

JOHN A. BONELL, Instructor in Shopwork.

Student Stout Institute, 1904, and State Normal School, Oshkosh, Wis., Summer 1905; Assistant and Instructor in Farm Mechanics, Marathon County School of Agriculture, Wausau, Wis., 1905-1910; attended Stout Institute, Summer 1910; present position since 1910.

HOWARD LOOMIS, A. B., Assistant in Agronomy.

A. B., Albion College, 1909; Instructor Chemistry and Physics, Union City, Ind., High School, 1909-1910; present position since 1910.

GUY E. YOUNGBERG, B. S., M. S., Assistant in Chemistry.

B. S., 1906; Ph. G., 1908, and M. S., 1909, South Dakota State College; present position since 1910.

MANLEY CHAMPLIN, B. S., Assistant in Agronomy.

B. S., South Dakota State College, 1909; Special Agent, 1909, Scientific Assistant, 1910, Collaborator, 1911, United States Department of Agriculture; present position since July, 1911.

MARY B. ALLEN, Instructor in Music.

Studied at Cedar Valley Seminary, Osage, Iowa; graduated from Huron College School of Music, Huron, S. D., 1912; present position since 1912.

***IRWIN S. OAKLAND, B. S., Assistant in Agronomy.**

B. S., South Dakota State College, 1912; present position since 1912.

EDITH J. HUBBART, B. S., Assistant in the Library.

B. S., South Dakota State College, 1908; present position since 1912.

HOWARD W. GREGORY, B. S., Assistant in Dairy Husbandry.

B. S. in Dairying, Oklahoma Agricultural and Mechanical College, 1912; present position since 1912.

GEORGE B. ATWOOD, B. S., Assistant in Veterinary Medicine.

B. S., South Dakota State College, 1912; present position since 1912.

GEORGE PHILLIPS, B. S., Instructor in Engineering.

B. S., South Dakota State College, 1909; Scholar University of Wisconsin 1910-1911; present position since 1912.

JULIA NICHOLS, Instructor in Home Economics.

Graduate H. E. S. N. S., Chicago; Teacher in Woman's College, Maryland, 1909; Studied at Technical Normal School, Chicago, 1912-13; present position since 1913.

MABEL TROOIEN, B. S., Instructor in Mathematics.

B. S., South Dakota State College, 1907; present position since 1913.

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*Resigned March 1, 1914.

HOWARD S. COE, B. S., Instructor in Botany and Plant Pathology.

Seed Inspector, Ohio Agricultural Experiment Station, 1907-09; Assistant in Botany Department and Commercial Seed Inspector, Iowa State College, 1909-13; B. S., Iowa State College, 1912; Collaborator U. S. Department of Agriculture, 1911-12; Scientific Assistant, U. S. Department of Agriculture in Clover Investigation Work, Summer 1913; Consulting Plant Pathologist of the South Dakota Agricultural Experiment Station and present position since September, 1913.

LAURA FERGUSON, Instructor in Music.

Studied four years with Robert Boice Carson, of Chicago; Graduate of Carson School of Music, Portland, Oregon, 1911; Solo Soprano White Temple Baptist Church, Portland, 1910; Solo Soprano Grace M. E. Church, Portland, 1911-12; Taught privately in Minneapolis, 1912-13; Soprano Soloist, Westminster Presbyterian Church, Minneapolis, 1912-13; present position since 1913.

RUTH ALINE WOOD, B. S., Instructor in the School of Agriculture.

B. S., South Dakota State College, 1913; present position since 1913.

CLIFFORD N. MILLS, B. S., Instructor in Mathematics.

B. S., Franklin College, Indiana, 1910; Graduate Student Indiana University, Summers 1910-12; Fellow, Indiana University 1913-14; Completed Work for A. M. Degree January, 1914; Teacher Public School Jennings Co., Indiana, 1904-5; Instructor Math. Franklin H.. S., Indiana, 1908-10; Tutor Math. Franklin College, Indiana, 1908; Prof. of Math. Highland College, Kansas, 1910-13; present position since February 3, 1914.

NELLIE G. KENDALL, B. S., Instructor in the School of Agriculture.

B. S., South Dakota State College, 1908; present position since 1912.

GRACE A. REVELL, B. S., Instructor in the School of Agriculture.

B. S., South Dakota State College, 1912; Post Graduate Student, South Dakota State College, 1912-1913; present position since 1913.

EDWARD BINNEWIES, B. S., Assistant in Chemistry.

B. S., South Dakota State College, 1913; present position since 1913.

CLARENCE SHANLEY, B. S., Assistant in Dairy Husbandry.

B. S., South Dakota State College, 1913; present position since 1913.

MATTHEW FOWLDS, B. S., Assistant in Entomology.

B. S., South Dakota State College, 1913; present position since 1913.

HENRY M. SHEA, Assistant in Chemistry.

Ph. G., 1911; B. S., 1913, South Dakota State College; present position since 1913.

JESSAMINE BASOM, A. B., Assistant in Commercial Science.

A. B., University of South Dakota, 1912; present position since 1913.

Other Officers and Employees

R. A. Larson	Secretary
Cecile Welch	Registrar
Nina A. Waters	Matron of Dormitory
Anne Henley	Adviser of Women

	Secretary to the President
Erastus Fjeld	Station Stenographer
George E. Purdy	Janitor and Carpenter
A. T. Larson	Engineer
Fred C. Stoltenberg	Florist

Faculty Committees

Faculty Committees will be announced at the beginning of the college year.

Members of Station Council

T. W. Dwight	Member Regents' Committee for the College
M. P. Beebe	Member Regents' Committee for the College
G. L. Brown	Acting President of the College

James W. Wilson	Director and Animal Husbandman
Niels E. Hansen	Vice Director and Horticulturist
James H. Shepard	Chemist
Christian Larsen	Dairy Husbandman
Albert N. Hume	Agronomist

General Information

HISTORICAL SKETCH.

Establishment.—An act of the Territorial Legislature approved February 21, 1881, provided that "an Agricultural College for the Territory of Dakota be established at Brookings, * * * * * provided that a tract of land not less than eighty acres be secured and donated to the Territory of Dakota."

The legislature of 1883 provided for the erection of the first building. This building, now known as the Central Building, was opened for use September 24, 1884.

The Enabling Act admitting the state of South Dakota, approved February 22, 1889, provided that 120,000 acres of land be granted for the use and support of the agricultural college, as provided in the acts of congress making donations of lands for such purpose. The acts of congress here referred to are, primarily, the act of July 2, 1862, known as the Morrill Act, providing that 30,000 acres of public land for each representative in congress be given to each state towards "the endowment, support, and maintenance of at least one college, where the leading object shall be, without excluding scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts."

By the Enabling Act of 1889 Congress granted to South Dakota for the Agricultural College 40,000 additional acres, in lieu of a grant that had been made to new states in 1841. Thus the total land grant for the Agricultural College was 160,000 acres.

The Name.—In the Morrill Act of 1862, such colleges were spoken of as "Colleges of Agriculture and Mechanic Arts." In order that the name might more nearly conform to the object for which the College was established, the legislature of 1907 changed the name from "The Agricultural College of

South Dakota,'' to ''The State College of Agriculture and Mechanic Arts.''

Sources of Income.—A joint resolution passed by the legislature of 1890 accepted the lands granted in the enabling act. These lands were not at once assigned. The Commissioner of Public Lands reported that 64,658 acres had been selected. All have since been selected; very few have been sold. A small amount is received yearly as rental. The first income recorded was $1,197.71, Sept. 1, 1896. As no school lands may be sold for less than ten dollars an acre, these lands, when sold, will probably yield an endowment of two million dollars, the interest from which will probably be sufficient for the needs of the college.

The Morrill Act passed by Congress in 1890 provides a yearly appropriation for ''the more complete endowment and support of colleges for the benefit of agriculture and mechanic arts.'' Under this act the College now receives from the general government the sum of $25,000 per annum.

An act making appropriation for the Department of Agriculture, approved by Congress March 4, 1907, provides for the further endowment and support of these colleges. The bill, which was introduced by Senator Knute Nelson of Minnesota, stipulates that the expenditure of the fund shall be governed in all respects by the provisions of the Morrill Act, and also that a portion of the money may be used to provide for the training of instructors in agriculture and mechanic arts. This act made an appropriation of $5,000 for the year 1907-1908, which increased $5,000 each year until it reached $25,000 per annum.

The College also receives aid from the State, biennial appropriations being made by the legislature for maintenance and buildings. The legislature of 1911 appropriated $50,500 for maintenance during each of the next two years, and $104,000 for building purposes.

Experiment Station.—This department was organized under the Hatch Act of Congress, which provided for the establishment of agricultural experiment stations in connection with agricultural colleges. These stations were established for the purpose of conducting experiments and research work in connection with all branches of the agricultural industries of the United States, due regard being paid to the varying conditions and needs of the respective states. It is also their object to aid in diffusing among the people useful and practical information on all subjects connected with agriculture.

The South Dakota Station conducts its investigations chiefly along the following lines: live stock, veterinary science, soils, field experiments, greenhouse work, trees and small fruits, and chemistry of plant growth and foods.

The Hatch Act provides that the experiment stations should each receive $15,000 annually from the National Government. This amount has been increased by the provisions of the Adams Act of 1906, so that the experiment station now receives $30,000 a year for maintenance.

LOCATION, BUILDINGS AND EQUIPMENT.

The Location.—The College is located upon an eminence one mile from the business center of Brookings, which has a population of about three thousand five hundred people. The city is situated on the Central Dakota Division of the Chicago and North-Western Railway, the Watertown branch making connection with the main line at this point.

Brookings is almost an ideal college town. It is lighted by electricity and has a complete water and sewer system. Its streets are lined with trees and its houses have well kept lawns abounding in ornamental shrubs and plants.

It is a city of clean morals. No saloon has been allowed within its limits for years; and the last few times when the question of allowing saloons within the city has been submitted to a vote of the people, it has been defeated by overwhelming majorities.

The College Buildings and Grounds.—The college campus upon and about which the college buildings are placed is beautifully located on an eminence within the corporate limits of Brookings. It is ornamented with choice and tasteful varieties of trees and shrubs and laid out with necessary walks and drives. Adjoining on the rear are the horticultural gardens, and to the north and northwest is the college farm.

The oldest building on the campus, called the Central Building, was erected in 1885. This and the other two old buildings, called the North Building and the Experiment Station Building during recent years, will in the future be given over to general class room and laboratory purposes.

The new Agricultural and Administration Building, which has been completed during the present college year, provides executive offices, an auditorium, laboratories, class rooms and offices for the various agricultural departments.

The Physics—Engineering Building is occupied by the physics and the engineering departments with their various class rooms, laboratories and shops.

The Plant Breeding Building, together with the large Greenhouse, furnishes room for the work that is being conducted by the departments of botany and horticulture.

The Chemistry—Pharmacy Building, a two-story structure, is occupied by the class rooms and laboratories of those departments.

The Creamery is a two-story building which was almost doubled in size in 1911 by an addition which was made to meet the growing demands upon this department.

The Gymnasium is a two-story building that is used for athletic exercises and military drill during the season when such work cannot be carried on outdoors. In connection with the Gymnasium a tract of land near the campus has been fitted up for outdoor exercises and sports.

Wenona Hall, a splendid brick dormitory for young ladies, stands on a site just across the street from the campus.

The central heating and electric light plant occupies a brick structure in the rear of the campus. The buildings are all heated by steam and lighted by electricity generated in this plant.

Near the campus on the adjoining college farm are located the agricultural and the dairy barns, together with a number of smaller buildings which are devoted to agricultural purposes.

The Farm and Horticultural Gardens.—The college farm includes four hundred and sixty acres, about sixty acres of which are used by the Agricultural Experiment Station as an experimental farm. Here the field experiments with field crops, seed germination and soil preparation are conducted, and the students may witness and actually participate in this scientific work. The remainder of the farm is used as a model stock and dairy farm under the direction of the professor of animal husbandry. Practical work in experiments involving the best farming practices for this region are given the students.

The Horticultural Gardens comprise about fifty acres adjoining the campus. Here and in the Greenhouse a large amount of work in fruit propagation and plant experimentation is being carried on.

The Laboratories, Shops and Museums.—Well fitted laboratories and shops have been provided in all those departments where their use is made necessary by modern educational methods. The value of illustrative materials has been recognized, and numerous departments have made large collections or museums. The equipment of the various departments is described in connection with their work.

The Library and Reading Room.—The library, occupying rooms on the first floor of the Central Building, contains over 16,000 bound volumes and about 6,000 pamphlets. The institution is a repository for the government and contains a set of government publications dating from 1886. Many of the more valuable sets have been extended to an earlier date. Care has been exercised in the selection of books, in order that each department may have proper reference books at the disposal of the students. The books are arranged according to the Dewey system of classification and are completely catalogued in the card catalogue. The library also receives the cards from the government, cataloguing the bulletins of the experiment stations and the publications of the United States Department of Agriculture. The files of many standard scientific and literary periodicals are kept bound. The reading room is abundantly supplied with current periodicals and newspapers. The library is open nearly all the time, day and evening, and at the disposal of students for the purpose of study and reading. Someone is in charge at all times to give help and information to those using the library.

The Postal Facilities.—The College furnishes first-class postal facilities, the mail of the students being delivered at the college at convenient times during the day, making it unnecessary for them to walk to the city postoffice.

ORGANIZATION AND GOVERNMENT.

The Board of Regents.—By an act of the legislature approved March 10, 1897, provision was made for the appointment of the Regents of Education, who have charge of all of the educational institutions which are maintained either wholly or in part by the state. The terms of office of the regents are each six years, and expire at different times, so that the board is a continuous body. Appointments to the board are made by the Governor, with the approval of the senate, ''of persons of probity and wisdom from among the best and best known citizens, residents of different portions of the state, none of whom shall reside in the counties in which any of the state educational institutions are located, who shall be designated as the Regents of Education.''

Among the powers and duties of the regents as defined by law some important ones are, to employ members of the different faculties and other agents, to determine the proper number of teachers in said faculties, also their compensation and terms of employment, to establish departments, to settle upon courses of study, to determine the rules to be enacted for the government of students, to decide upon text books to be used, to fix tuition fees, to guard against unwise duplication of departments, to confer degrees, to control the Agricultural Experiment Station, and to promote education among the farmers by providing for institutes; in fact, to make all regulations as to the executive and instructional functions of the educational institutions of the state. The regents govern the College largely through a regents' committee.

The Faculty.—The faculty, consisting of the president and professors, all of whom are elected by the regents, determines in large part the general policy of the College. The professors are heads of the different departments of instruction which they represent and are responsible to the president, who is in charge of all matters of administration. The president, in turn, is responsible to the regents for the whole work of the institution. In order to aid the president in his executive duties, he appoints, at the beginning of each college year, certain faculty committees which take up such work as may be assigned them by the president and faculty, and thus greatly facilitate the

In the government of the College the faculty rely chiefly upon the sense of duty of the students. The student is expected to pursue his studies with diligence, to attend classes regularly and maintain good behavior at all times. Students are not only under the direct supervision of the faculty while on the campus, but are responsible for their conduct wherever they may be.

In order that the work of the College may be rendered as efficient as possible and all relations made harmonious, a set of regulations, chiefly governing matters of classification, has been adopted by the faculty. No set rules are expected to cover every condition that arises, and all students should recognize the importance of co-operation with the faculty in their efforts to make college life helpful to the student body as a whole.

STUDENT ACTIVITIES.

Faculty Control.—While the students are allowed wide latitude in carrying on affairs which vitally concern themselves, such as athletic, literary, musical, social and other activities, the faculty retains an advisory interest in all such matters, and has the right at any time to pass reasonable regulations for the welfare of the College.

The Student Association.—The athletic, debating and oratorical interests and the college paper, the Industrial Collegian, are under the control of the Student Association which governs these activities by means of a board of control, consisting of students and members of the faculty. This board is organized into the Athletic, the Collegian, and the Debating Councils, each of which directs the respective interests that come under it. A fee of three dollars a semester, or proportional sums for students whose work is arranged in terms shorter than the semester, is charged for membership, which admits the holder to all student exercises under the supervision of the association and pays for a subscription to the Collegian.

Athletics.—Under the auspices of the local organization and a number of college athletic associations of the state, all kinds of athletic sports are practiced and encouraged. The local representatives contest at the State Meet once a year for athletic honors. Students should understand, however, that their studies must receive the first consideration; and that the purpose of athletic exercises is to develop gentlemanly and ladylike qualities in those who participate in them.

Oratory and Debating.—Each year for a number of years representatives of the college have met students from other institutions in debating contests. The members of the local teams are chosen in a series of preliminary contests in which all are encouraged to take part. There has thus been aroused among the student body a large interest in this kind of work and a healthy rivalry to obtain places on the intercollegiate teams.

Credit for three hours work during one semester is given those who take part in an intercollegiate debate.

A representative of the college is sent each year to the inter-collegiate oratorical contest of the state. This student is selected by means of a local preliminary contest. In order that this contestant may fully represent the college, the faculty has imposed the requirement that those competing for this honor must be pursuing regular work for the Bachelor's degree.

The Student Publications.—The Industrial Collegian is a weekly paper published by the students of the College. It is intended to be a mirror of student life at this institution, and all phases of college activity have representatives on its staff of editors.

The Jack Rabbit is published annually by the junior class, and is a good representative and exponent of college life.

The Literary Societies.—The literary society is an important factor in the education of the student and all are strongly advised to take part in this kind of work. All preparatory students are expected to become members of the Franklin Society whose work is carried on under the supervision of the preparatory department, and is a preparation for the college societies.

The faculty and various citizens, recognizing the value of literary society work, have offered several trophies to be competed for by the Athenian and Miltonian Societies, which are composed of students of collegiate standing.

The Christian Associations.—In the state schools the Young Men's and Young Women's Christian Associations occupy unique positions. They are the only organizations whose primary object is the moral development of the student body. Their platforms are broad enough to allow every student who stands for pure manhood and womanhood to affiliate himself or herself with them. The purpose of the associations is to present the value of Christian living to the student and to the state, and to create an atmosphere of good-fellowship among the members of the student body. The Young Men's Christian Association is personally supervised by a secretary who is engaged to spend a large part of his time in directing this work. The Young Women's Christian Association is supervised by the state and international college secretaries.

Other Student Organizations.—Among these may be mentioned the Art Club which encourages interest in art by bringing exhibits from a distance and by giving annually a costume party in which historic and literary characters are represented; the Glee Club, which makes an annual tour over the state; the Dramatic Club, which makes a study of some of the best dramatic literature, and presents a play each year; and the Agricultural Club, the Engineering Club, the Pharmacy Club and other organizations.

STUDENT EXPENSES.

Tuition and Other Fees.—The tuition for regular work extending throughout the college year is six dollars per semester, or twelve dollars per year. For information concerning tuition fees for work that is not arranged according to semesters, see the respective courses. A student who enrolls must pay the full tuition for the semester or term. A laboratory fee of two dollars per semester is charged for the use of each laboratory in which the student takes work. Books and other supplies are furnished by the student.

Special fees are charged for instruction in music in the College. (See the department of music.)

By action of the regents the tuition and incidental fees and laboratory fees, after having been paid, will in no case be refunded; but music, dormitory and other fees may be refunded at the discretion of the president of the College, if the student is called away before the end of the term or semester by unavoidable causes.

Estimate of Expenses.—An estimate of the yearly expenses of a student is as follows:

Board and Room	$200.00
Tuition	12.00
Fees in Student Association	6.00
Laboratory fees	10.00
Books and Supplies	25.00
Laundry Expenses	20.00
Incidentals	25.00
	$298.00

Men students are expected to purchase military uniforms which range in cost from $16.00 to $18.00.

While the above is considered as a reasonable estimate, many students go through the year on a less amount. Much depends upon the character of the student and the work he is taking.

Board and Rooms.—Good rooms and board can be obtained at private houses. A boarding club conducted in connection with the college furnishes board to the young men at a low cost, and the dormitory provides a large number of the young ladies with comfortable homes at reasonable rates. (See the following page for dormitory regulations.)

Every effort is made by the officers of the institution to secure suitable and satisfactory boarding places for students. A list of approved available places for boarding or rooming can be obtained at any time from the president of the College.

The Christian Associations make it a point at all times to assist new students in finding proper living accommodations. If prospective students will write to the Young Men's or Young Women's Christian Association of the College, officers of these organizations will be glad to arrange to meet them at the train and help them to secure boarding and rooming places.

The Ladies' Dormitory.—This building is 120 by 50 feet in dimensions and three stories in height. In addition to the preceptress and other lady teachers, the matron and servants, it will provide a home for sixty women students.

Besides the general parlors and reception hall on the first floor, the second floor contains a general sitting room, while on the third floor is a recreation hall suitable for parties and plays which are attended by girls only. Two bath rooms, toilet rooms and lavatories are also on each floor. In addition, each room is provided with a large closet, and a stationary wash stand with hot and cold water.

Precautions have been taken to reduce danger from fire to a minimum. The building is heated by steam, lighted by electricity, and in every respect has the latest improvements and conveniences.

Each room is provided with two single cots or beds with mattresses and pillows, two straight chairs, study table, dresser with mirror, rug and window shades. Bedding, towels and other articles must be provided by the students. Each girl should provide herself with mattress pad, two pairs of pillow cases, three sheets, two pairs of blankets, napkin ring, six towels and a clothes bag.

The basement is provided with a large dining room, kitchen, store rooms, laundry and rooms for the help. Here a boarding club is conducted under the supervision of an experienced matron. Every effort is made to provide wholesome fare at minimum cost to the students. The cost of table board during the last two years has been about $3.00 a week. Payment for board at the rate of $3.00 per week must be made for four weeks in advance. No deduction for board will be made for less than a week's absence.

Occupants of the building will be entitled to the laundering of a limited number of articles without extra cost.

The cost of rooms in the hall varies from $12 on the third floor to $14 on the first floor per semester for each occupant, two in a room. This fee includes both light and heat. The room rent is payable in advance. The occupants will be expected to take care of their own room.

A student desiring room reserved for her must forward $2.00 with her application. This will apply on the regular room rent for the semester. In no case will this advance payment be refunded.

Student Labor.—There is a limited amount of paid labor about the institution which can be done by students and it is the policy of the College authorities to give as much work to deserving students as is consistent with the best interests of all. However, no one should expect to earn his entire expenses while at college and doing school work, or be assured of an income in advance from paid labor.

Scholarships.—The following article from the law, defining powers and duties of the regents of education, is self-explanatory: ''The Regents of Education shall fix all rates of tuition and other fees to be paid by students, but such rates must be the same in all different institutions. They may receive free of tuition two students appointed by each senator and one by each representative of the state legislature in any one of the institutions under their control, provided that the period for which appointment is made shall expire with the term of office of said senator or representative, and provided that such appointees shall comply with all the rules and requirements of the institution which they desire to enter. No student, however, shall receive any other gratuity whatever.'' The regents of education make this article operative in the case of this institution. The student must present his appointment to the secretary of the College at the time of enrollment in order to obtain credit for the same.

ENTRANCE REQUIREMENTS.

Admission.—While students are admitted at any time and assigned to such classes as they are found best fitted to enter, it is much better to commence at the beginning of the college year. No reduction in college fees is made when the student enters after the beginning of the term, and if a student enters later he will not under any condition be allowed to hold a class back. If a tardy beginning is imperative the student must arrange with a tutor for assistance in bringing up his work, in order that he may go on understandingly and without hindrance to the class.

Candidates for admission to any department of the College must be at least fourteen years of age and of good moral character.

Credit in the College may be obtained by presenting certified grades from other institutions of reputable standing or through examination. The College reserves the right, however to cancel grades accepted from other schools should the student be found deficient in the subject for which he has received credit.

The College will furnish prospective students with application blanks, which, after being filled out with certified standings and other data, should be returned to the registrar.

The first two days of the first semester are devoted to the registration of students. All students should complete their registration at this time and new students must present their credits at or before this time if they expect to be assigned a proper classification.

Entrance Credits.—Students will be admitted to the four-year courses, and the two-year course in Pharmacy upon presenting credit for fifteen units of high school or other secondary school work. A unit is a subject which is taught five periods a week throughout the school year, or equivalent to one hour of recitation or lecture work.

Of the fifteen units required, eleven and one-half units are in prescribed subjects, the remaining three and one-half being in optional subjects as indicated below. A student who has graduated from a creditable high school course of four years will in general be enrolled as a member of the freshman class, but in case the prescribed subjects have not been completed, he may be required to bring up this back work.

A student may be admitted to a college class without having passed in one or two of his entrance studies. These shall stand against him and must be cleared up within one year after entrance or the student will be required to take the subjects with the regular classes.

For the benefit of students who are unable to attend a high school to complete the preparatory requirements, a preparatory course is maintained. Students will not be admitted to this department unless they present evidence that they have completed the work of the public schools as far as the ninth grade. For the preparatory course, see the Preparatory Department.

The list of perscribed and optional subjects are shown in the following table:

Prescribed Units.

English, four units. Not more than one year of this work should be the study of grammar; the remaining three years' work should consist of composition work and a study of some of the simpler American and English classics.

Algebra, one and a half units for engineering students, one unit for others. The fundamental operations, factoring, fractions, simple equations, involution, evolution, radicals, quadratic equations and the analysis and solutions of problems involving these principles.

Plane Geometry, one unit. The completion of this part of geometry. Special emphasis should be paid to the solutions of original problems and constructions.

Elementary Physics, one unit. One year's work covering the science as presented in the best text books. Laboratory work should accompany the text book work.

History, one and a half units. This work should follow, and not include, elementary United States History, and should be a connected study of some of the following lines: ancient, medieval, modern, English and American history.

Civics, one half unit. A study of the constitutions of the United States and of the state, as presented in the best high schools.

Foreign Language ,two units. These credits should be for two years' work in some one of the languages, German, French or Latin. In case a student is a graduate of a four-year high school course which does not include any foreign language, credits in the natural sciences may be substituted for these two units.

Optional Units.

The three and one-half optional units may be offered in the same lines of work as the prescribed units and in other departments, as indicated by the table below. About the only requirement made concerning the work for which credit is offered is that it should be of a reasonably high standard. The maximum credit that is allowed in each subject is indicated in the table. While no minimum is stated it is expected that a student shall have covered a reasonable amount of a subject before being given any credit in it.

	Required Units	Maximum Counted
English	4	4
*Algebra, thru quadratics	1½	1½
Plane Geometry	1	1
Elementary Physics	1	1
History, following elementary U. S. History	1½	3
*Foreign Language, German, French or Latin	2	4
Civics	½	½
Science—		
Agriculture	....	1
Physiology, following Biology, Zoology or Botany	....	½
Botany	....	1
General Biology	....	1
Zoology	....	1
Geology	....	½
Physical Geography	....	½
Bookkeeping	....	½
Commercial Geography	....	½
Freehand Drawing	....	½
Manual Training, including Mechanical Drawing	....	1
Cooking	....	½
Sewing	....	½
Solid Geometry	....	½

*See above for exceptions.

STUDIES.

The Credit Hour.—Credit for college work is counted in credit hours. A credit hour is one hour of class or lecture work requiring an additional hour and a half in preparation. Two hours in laboratory work is counted equivalent to one hour spent in the class room.

Registration.—In registering for work the student is advised by a member of the faculty who helps him to make out a consistent schedule of studies. In general, students are not allowed to classify in more than twenty nor less than fourteen credit hours a week. The faculty recognize that, because of differences in subjects and in the ability of students, some are able to carry a larger number of hours than others, and endeavor to assign to each student enough work to keep him reasonably busy without overloading him.

Special Students.—Students of mature years who have passed in the work of the preparatory department may be allowed to pursue special studies if not candidates for a degree, but they must satisfy the faculty that they are qualified to take up the studies desired.

Military Requirements.—The national law organizing and endowing these agricultural colleges requires that military science shall form part of the instruction offered. All male students taking regular work in the College are required to do certain work in this department, unless excused because of physical disability or some other grave reason. Certificates of disability should be obtained from the physician whom the College authorities have designated for such work, the College bearing the expense of the examination. For further regulations governing this work see the military department.

Grades.—All grades in college work are reported to the registrar in numbers on the scale of 100 as perfect. Grades are reported to students in classes as follows: Class ''A'' representing grades between 90 and 100; Class ''B'' from 80 to 90; Class ''C'' from 70 to 80. Class ''F'' is used for all grades below 70, and indicates that the student is so deficient in his work that he should repeat it with the regular class. Students having a term grade of ''A'' may not be required to take final examinations with their classes.

Conditioned Students.—Any student who without good reason has failed to receive a passing grade in a reasonable amount of his work will be registered only conditionally for further work. And if any student at any time is not carrying the work in which he is classified at a passing grade, or fails to perform other duties which may be expected of him, he may be placed upon the conditioned list and thus debarred from certain student privileges.

Absences.—Students are expected to attend regularly all the exercises of the classes to which they are assigned. When a student finds it necessary to be absent he should get an excuse in advance, if possible. Otherwise he should present an excuse to the committee having this matter in charge at the time and place they may designate. Excuses will be granted only when the absence seems necessary, and such penalties will be imposed upon students for unexcused absences as the faculty may deem proper. Should a student find it necessary to be late to his class he should make a satisfactory explanation to his instructor at the close of the period.

All work that is omitted because of absences must be made up as the instructor may direct.

DEGREES AND CERTIFICATES.

Degrees.—The courses of study leading to degrees given by the College are outlined on following pages and are as follows:

The two-year course in Pharmacy, leading to the degree of Pharmacy Graduate. For additional work of two years leading to the degree of Bachelor of Science, see schedule of Pharmacy Course.

The four-year course in Agriculture, in which the student may specialize along the lines of animal husbandry, dairy husbandry, agronomy, horticulture and plant pathology. Upon the completion of one of these schemes, under the direction of the head of the department in which the group of electives is chosen, the student will receive the degree of Bachelor of Science.

The four-year course in Home Economics leading to the degree of Bachelor of Science.

The four-year courses in Mechanical, Electrical and Civil Engineering, leading to the degree of Bachelor of Science, (B.

S.). In order to meet a constantly increasing demand for better equipped and more thoroughly trained men along the several lines of engineering activities, an additional fifth year course of study is offered in the three engineering departments. Upon the completion of this additional year's work, the advanced degree, Mechanical Engineer, Electrical Engineer, or Civil Engineer, will be conferred. This work is nearly all prescribed and is a continuation of the work pursued in the undergraduate courses, and is intended more fully to equip the student with special training along the particular line of work which he desires to pursue after leaving college.

The four-year course in General Science, leading to the degree of Bachelor of Science. The work of this course is largely elective and is planned to give the student a liberal education, at the same time permitting specialization in the sciences.

The degree of Master of Science is offered to students who have received the Bachelor's degree either from this institution or from other institutions of equal rank, and who in addition have completed at least one full year's resident work, i. e., forty credit hours, in advanced study and have shown a reasonable proficiency in such work. At least two-thirds of this work must be in some one line of study, called the major work. The scheme of study presented by the student for the degree must be prescribed by the faculty committee on advanced degrees, who will outline the work in consultation with the head of the department in which the major work is taken.

It should be understood that the work for this degree cannot be subjected to rigid regulation, and that each case must be dealt with on its individual merits.

Special Courses.—The College also offers special courses in several important and practical lines of work. These are mentioned in other parts of the catalog under the proper headings, and are as follows:

The four-year course in the School of Agriculture.

The one-year secretarial course.

The five-months course in steam engineering.

The three-months creamery course.

The special automobile course.

The special work in vocal and instrumental music.

The special work in art.

The one-week dairy course for cream testers.

The one-week course in agriculture and home economics, called farmers' week.

Courses of Study.—The work leading to a Bachelor's degree and the degree of Pharmacy Graduate is mapped out on the following pages. The conditions for entrance to these courses may be found under "Entrance Requirements." The notation immediately after the name of a subject indicates its nature and the number of times it occurs a week, "a" referring to the class work, and "b" to the laboratory exercises. A department will not be required to give an elective unless at least five students are registered for the subject.

Course In Agriculture

FRESHMAN YEAR.

First Semester—

Rhetoric, a 3	English	9
Chemistry, a & b 5	Chemistry	1
Farm Crops, a 2 b 3	Agronomy	1
Stock Judging, a 2 b 2	Animal Husbandry	1
Military Tactics, 3		
Elective, a 4		
French, a 4	French	1
German, a 4	German	1

Second Semester—

Rhetoric, a 3	English	10
Chemistry, a & b 5	Chemistry	2
Farm Dairying, a 2 b 1	Dairy Husbandry	1
Breeds of Live Stock, a 3	Animal Husbandry	2
Veterinary Anatomy, a 2	Veterinary	1
Military Tactics, 3		
Elective, a 4		
Elective, a 4		
French, a 4	French	2
German, a 4	German	2

SOPHOMORE YEAR.

First Semester—

Botany, a 2 b 3	Botany	2
Quantitative Chemistry, b 5	Chemistry	3
English Literature, a 3	English	17
Entomology, a 1 b 1	Entomology	3
Horticulture, b 1	Horticulture	1
Military Tactics, 3		
Elective, a 4		
French, a 4	French	3
German, a 4	German	3

Second Semester—

Botany, a 2 b 3	Botany	3
Organic Chemistry, a & b 5	Chemistry	11
Military Science, a 1	Military Science	1
Entomology, a 1 b 2	Entomology	4
Horticulture , b 1	Horticulture	2
Military Tactics, 3		
Elective, a 4		
French, a 4	French	4
German, a 4	German	4

Animal Husbandry Group—Agriculture Course

(For Freshman and Sophomore Years, See Above)

JUNIOR YEAR.

First Semester—

General Zoology, a 2 b 3	Zoology	3
Soils, a & b 5	Agronomy	4
Market Types and Classes, a 3	Animal Husbandry	8
Anatomy of Conformation and Soundness, a 2	Veterinary	3
Animal Mechanics, a 2	Veterinary	4
Elective, a 2		

Second Semester—

General Zoology and Veterinary Pysiology, a 2 b 3	Zoology	4
Soils, a & b 5	Agronomy	5
Principles of Animal Breeding, a 3	Animal Husbandry	4
Animal Nutrition, a 3	Animal Husbandry	5
Agricultural Chemistry, a 3	Chemistry	6

SENIOR YEAR.

First Semester—

Economics, a 3	History	15
Psychology, a 3	Education	1

Advanced Stock Judging, a 2............Animal Husbandry 3
Stock Feeding, a 3....................Animal Husbandry 6
Veterinary Medicine, a 3........................Veterinary 2
Stable Hygiene, a 3............................Veterinary 5
Elective, a 2...

Second Semester—

Agricultural Economics, a 3.......................History 16
Live Stock Management, a 2............Animal Husbandry 7
Architectural Drawing, b 3.........Mechanical Engineering 6
Elective, a & b 12......................................

Dairy Husbandry Group—Agriculture Course

(For Freshman and Sophomore Years, See Above)

JUNIOR YEAR.

First Semester—

General Zoology, a 2 b 3..........................Zoology 3
Soils, a & b 5................................Agronomy 4
Inspection & Testing Dairy Products, a & b 4..............
..................................Dairy Husbandry 2
General Bacteriology, a & b 5...................Veterinary 6

Second Semester—

General Zoology, a 2 b 3..........................Zoology 4
Dairy Bacteriology, a 1 b 2..............Dairy Husbandry 3
Dairy Technology, a 2 b 2.................Dairy Husbandry 7
Soils, a & b 5................................Agronomy 5
Principles of Animal Breeding, a 3......Animal Husbandry 4

SENIOR YEAR.

First Semester—

Factory Operation (Creamery), a 3 b 2....Dairy Husbandry 4
Dairy Management, a 2 b 2...............Dairy Husbandry 6
Economics, a 3..................................History 15
Psychology, a 3..............................Education 1
Elective, a & b 5.......................................

Second Semester—

Agricultural Economics, a 3.......................History 18
Factory Operation (Cheese), a 3 b 2......Dairy Husbandry 5
Elective, a & b 10.......................................

Agronomy Group—Agriculture Course

(For Freshman and Sophomore Years, See Above)

JUNIOR YEAR.

First Semester—

General Zoology, a 2 b 3	Zoology	3
Soils, a & b 5	Agronomy	4
Elective, a & b 8		

Second Semester—

Farm Crops, a 3 b 2	Agronomy	2
General Zoology and Veterinary Physiology, a 2 b 3	Zoology	4
Soils, a & b 5	Agronomy	5
Elective, a & b 3		

SENIOR YEAR.

First Semester—

Economics, a 3	History	15
Psychology, a 3	Education	1
Geology, a 3 b 2	Agronomy	9
Elective, a & b 8		

Second Semester—

Agricultural Economics, a 3	History	18
Heredity, a 2 b 1	Horticulture	7
Elective, a & b 12		

Horticulture and Plant Pathology Group—Agriculture Course

(For Freshman and Sophomore Years, See Above)

JUNIOR YEAR.

First Semester—

General Zoology, a 2 b 3	Zoology	3
Soils, a & b 5	Agronomy	4
Mycology, a 2 b 3	Botany	5
Systematic Pomology, b 1	Horticulture	5
Architectural Drawing, b 3	Mechanical Engineering	6

Second Semester—

General Zoology and Veterinary Physiology, a 2 b 3	Zoology	4
Soils, a & b 5	Agronomy	5
Heredity and Plant Breeding, a 2 b 1	Horticulture	7
Plant Physiology, a 2 b 3	Botany	4
Floriculture and Market Gardening, b 2	Horticulture	3

SENIOR YEAR.

First Semester—

- Economics, a 3....................History 15
- Psychology, a 3....................Education 1
- Forestry, a 2....................Horticulture 4
- Elective, a & b 12....................

Second Semester—

- Agricultural Economics, a 3....................History 18
- Landscape Gardening, b 2....................Horticulture 6
- Elective, a & b 15....................

Home Economics

FRESHMAN YEAR.

First Semester—

- Rhetoric, a 3....................English 9
- Drawing, b 2....................Art 1
- Elementary Chemistry, a & b 5....................Chemistry 1
- Principles of Cookery, a 2 b 3....................Home Economics 3
- Elective, a 4....................
  - French, a 4....................French 1
  - German, a 4....................German 1

Second Semester—

- Rhetoric, a 3....................English 10
- Drawing, b 2....................Art 15
- Elementary Chemistry, a & b 5....................Chemistry 2
- Physics of Heat, a 2....................Physics 9
- Textiles and Principles of Sewing, a 2 b 2..Home Economics 10
- Elective, a 4....................
  - French, a 4....................French 2
  - German, a 4....................German 2

SOPHOMORE YEAR.

First Semester—

- English Literature, a 3....................English 11
- Household Chemistry, a & b 5....................Chemistry 8
- General Botany, a 2 b 3....................Botany 1
- Preparatory Dressmaking, a 1 b 2....................Home Economics 11
- Elective, a 4....................
  - French, a 4....................French 3
  - German, a 4....................German 3

Second Semester—

- English Literature, 3....................English 12
- Chemistry of Foods and Nutrition, a & b 5....................Chemistry 4

General Botany, a 2 b 3	Botany	2
Theory of Design, a 2	Art	3
Elective, a 4		
French, a 4	French	4
German, a 4	German	4

JUNIOR YEAR.

First Semester—

English Literature, a 3	English	13
History, Medieval, a 3	History	7
General Zoology & Physiology, a 2 b 3	Zoology	2
Bacteriology, a & b 5	Zoology	10
Psychology, a 3	Education	1

Second Semester—

English Literature, a 3	English	14
History, Modern, a 3	History	8
General Zoology & Physiology, a 2 b 3	Zoology	3
Advanced Dressmaking, a & b 3	Home Economics	12
Serving and Dietetics a 1 b 2	Home Economics	4
Elective		
Ethics, a 3	Education	2
History of Education, a 3	Education	3

SENIOR YEAR.

First Semester—

Economics, a 3	History	15
Art History, a 2	Art	6
Applied Design, b 2	Art	4
Sanitation, a 3	Home Economics	6
Home Nursing, a 3	Home Economics	7
The House and Market, a 3	Home Economics	8
Elective, a 3		
Principles of Teaching, a 3	Education	5
English Literature, a 3	English	15
Child Psychology, a 3	Education	6
Nature Study, a 3	Entomology	12

Second Semester—

Astronomy, a 3	Mathematics	15
Sociology, a 3	History	16
Art History, a 2	Art	7
Applied Design, b 2	Art	5
Special Problems in Cookery, a 1 b 2	Home Economics	5
Elective, a & b 5		
Bird Life, a & b 2	Entomology	11
Household Insects, a 2	Entomology	9
English Literature, a 3	English	16
English Novel, a 3	English	20
Principles of Education, a 3	Education	7

Mechanical Engineering

First Semester—

Rhetoric, a 3	English	9
College Algebra, a 5	Mathematics	8
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Engineering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10
Plane and Spherical Trigonometry, a 5	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	2
Machine Shop, b 3	Mechanical Engineering	3
Surveying, a & b 2	Civil Engineering	1
Military Tactics, 3		

SOPHOMORE YEAR.

First Semester—

Analytic Geometry, a 5	Mathematics	11
General Physics, a 3 b 2	Physics	3
English Literature, a 3	English	17
Machine Shop, b 5	Mechanical Engineering	4
Military Tactics, 3		

Second Semester—

Calculus, a 5	Mathematics	12
General Physics, a 3 b 2	Physics	4
English Literature, a 3	English	18
Descriptive Geometry, a & b 1	Mechanical Engineering	7
Machine Design, b 4	Mechanical Engineering	8
Elements of Military Science, a 1	Military	1
Military Tactics, 3		

JUNIOR YEAR.

First Semester—

Machine Design, b 2	Mechanical Engineering	9
Elements of Mechanism, a 3	Mechanical Engineering	16
Electricity and Magnetism, a 3 b 1	Electrical Engineering	1
Hydraulics, a 3	Civil Engineering	5
Analytic Mechanics and Calculus, a 5	Mathematics	13
Graphic Statics, b 2	Civil Engineering	3

Second Semester—

Analytic Mechanics, a 3	Mathematics	14
Steam Engines and Thermodynamics, a 5	Mechanical Engineering	12
Mechanics of Materials, a 5	Mechanical Engineering	16

Electrical Measurements, b 1	Electrical Engineering	2
Dynamo Electrical Machinery, a 3 b 2	Electrical Engineering	3

SENIOR YEAR.

First Semester—

Gas and Oil Engines, a 2	Mechanical Engineering	11
Experimental Engineering, b 3	Mechanical Engineering	17
Steam Boilers, a 2	Mechanical Engineering	13
Engineering Design, b 5	Mechanical Engineering	19
Highway Construction, a 2 (1915)	Civil Engineering	4
Or Sewerage, a 2 (1914)	Civil Engineering	11
Economics, a 3	History	15

Second Semester—

Experimental Engineering, b 5	Mechanical Engineering	18
Structural Design, b 5	Mechanical Engineering	20
Contracts and Specifications, a 2	Civil Engineering	13
General Astronomy, a 3	Mathematics	15
Masonry and Foundations, a 2	Mechanical Engineering	25

Fifth Year Subjects in Mechanical Engineering

First Semester—

Alternating Currents, a 3 b 2	Electrical Engineering	4
Structural Design, b 3	Mechanical Engineering	21
Statics, a 2	Mechanical Engineering	24
Thesis, a 2	Mechanical Engineering	27
Elective, 5		

Second Semester—

Kinematics, b 2	Mechanical Engineering	14
Structural Engineering, b 2	Mechanical Engineering	22
Heating and Ventilation, a 2	Mechanical Engineering	25
Thesis, a & b 3	Mechanical Engineering	28
Railroad Engineering, a 3	Civil Engineering	19
Elective, 5		

Note—All Electives must be taken in the department.

Electrical Engineering

FRESHMAN YEAR.

First Semester—

Rhetoric, a 3	English	9
College Algebra, a 5	Mathematics	8
Elementary Chemistry, a & b 5	Chemistry	1

Mechanical Drawing, b 5...........Mechanical Engineering 5
Military Tactics, 3....................................

Second Semester—

Rhetoric, a 3....................................English 10
Plane and Spherical Trigonometry, a 5.........Mathematics 9
Elementary Chemistry, a & b 5..................Chemistry 2
Machine Shop, b 3................Mechanical Engineering 3
Surveying, a & b 2......................Civil Engineering 1
Military Tactics, 3....................................

SOPHOMORE YEAR.

First Semester—

Analytic Geometry, a 5.......................Mathematics 11
General Physics, a 3 b 2..........................Physics 3
English Literature, a 3...........................English 17
Machine shop, b 5................Mechanical Engineering 4
Military Tactics, 3....................................

Second Semester—

Calculus, a 5...............................Mathematics 12
General Physics, a 3 b 2..........................Physics 4
English Literature, a 3...........................English 18
Descriptive Geometry, a & b 1......Mechanical Engineering 7
Machine Design, b 4...............Mechanical Engineering 8
Elements of Military Science, a 1.................Military 1
Military Tactics, 3....................................

JUNIOR YEAR.

First Semester—

Electricity and Magnetism, a 3 b 2...Electrical Engineering 1
Machine Design, b 2...............Mechanical Engineering 9
Elements of Mechanism, a 3........Mechanical Engineering 10
Hydraulics, a 3..........................Civil Engineering 5
Analytic Mechanics and Calculus, a 5..........Mathematics 13
Graphic Statics, a 2.....................Civil Engineering 3

Second Semester—

Analytic Mechanics, a 3.......................Machematics 14
Electrical Measuremnts, b 1..........Electrical Engineering 2
Dynamo Electric Machinery, a 3 b 2..Electrical Engineering 3
Steam Engines and Thermodynamics, a 5..................
..............................Mechanical Engineering 12
Mechanics of Materials, a 5........Mechanical Engineering 16

SENIOR YEAR.

First Semester—

Alternating Currents, a 3 b 2........Electrical Engineering 4
Dynamo Design, b 3.................Electrical Engineering 5
Gas and Oil Engines, a 2...........Mechanical Engineering 11

Steam Boilers, a 2	Mechanical Engineering	13
Experimental Engineering, b 3	Mechanical Engineering	17
Economics, a 3	History	15

Second Semester—

Electric Light and Power Distribution,, a 3 b 2	Electrical Engineering	6
Experimental Engineering, b 5	Mechanical Engineering	18
Contracts and Specifications, a 2	Civil Engineering	13
General Astronomy, a 3	Mathematics	15
Masonry and Foundations, a 2	Mechanical Engineering	25

Fifth Year in Electrical Engineering

First Semester—

Electric Traction, a 3 b 2	Electrical Engineering	7
Principles of Electrical Engineering, a 3	Electrical Engineering	8
Electrical Design, b 3	Electrical Engineering	9
Thesis, a & b 2	Electrical Engineering	12
Sewerage, a 2 (1914)	Civil Engineering	11
or Highway Construction, a 2 (1915)	Civil Engineering	4
Elective, 2		

Second Semester—

Design of Power Stations, a 2 b 3	Electrical Engineering	10
Long Distance Transmission, a 2	Electrical Engineering	11
Thesis, a or b 3	Electrical Engineering	13
Railroad Engineering, a 3	Civil Engineering	19
Elective, 5		

Note—Electives must be taken in the department.

Special electives in Electrical Engineering subjects will be offered in the senior and fifth years.

Civil Engineering

FRESHMAN YEAR.

First Semester—

Rhetoric, a 3	English	9
College Algebra, a 5	Mathematics	8
Elementary Chemistry, a & b 5	Chemistry	1
Mechanical Drawing, b 5	Mechanical Engineering	5
Military Tactics, 3		

Second Semester—

Rhetoric, a 3	English	10

Plane and Spherical Trigonometry, a 5	Mathematics	9
Elementary Chemistry, a & b 5	Chemistry	2
Machine Shop, b 3	Mechanical Engineering	3
Plane Surveying, a & b 2	Civil Engineering	1
Military Tactics, 3		

SOPHOMORE YEAR.

First Semester—

Analytic Geometry, a 5	Mathematics	11
General Physics, a 3 b 2	Physics	3
English Literature, a 3	English	17
Plane and Topographical Surveying, a & b 5	Civil Engineering	2
Military Tactics, 3		

Second Semester—

Descriptive Geometry, a & b 1	Mechanical Engineering	7
Calculus, a 5	Mathematics	12
General Physics, a 3 b 2	Physics	4
English Literature, a 3	English	18
Elements Military Science, a 1	Military	1
Machine Design, b 4	Mechanical Engineering	8
Military Tactics, 3		

JUNIOR YEAR.

First Semester—

Analytic Mechanics and Calculus, a 5	Mathematics	13
Electricity & Magnetism, a 3 b 2	Electrical Engineering	1
Elements of Mechanism, a 3	Mechanical Engineering	10
Hydraulics, a 3	Civil Engineering	5
Graphic Statics, b 2	Civil Engineering	3
Highway Construction, a 2 (1915), or	Civil Engineering	4
Sewerage, a 2 (1914)	Civil Engineering	11

Second Semester—

Analytic Mechanics, a 3	Mathematics	14
Steam Engines and Thermodynamics, a 5	Mechanical Engineering	12
Mechanics of Materials, a 5	Mechanical Engineering	16
Stresses, a 4	Civil Engineering	6
Railroad Surveying, a 1 b 2 (1914), or	Civil Engineering	7
Water Supply and Irrigation, a 3 (1915)	Civil Engineering	15

SENIOR YEAR.

First Semester—

Economics, a 3	History	15
Geology, a 5	Agronomy	9
Structural Details, a 2	Civil Engineering	8
Structural Steel Design, b 3	Civil Engineering	9

Experimental Engineering, b 3	Mechanical Engineering	17
Geodetic Surveying, a & b 2	Civil Engineering	10
Sewerage, a 2 (1914), or	Civil Engineering	11
Highway Construction, a 2 (1915)	Civil Engineering	4

Second Semester—

General Astronomy, a 3	Mathematics	15
Contracts and Specifications, a 2	Civil Engineering	13
Bridges and Dams, a 2 b 2	Civil Engineering	12
Masonry and Foundations, a 2	Mechanical Engineering	25
Reinforced Concrete, a 3	Civil Engineering	14
Water Supply and Irrigation, a 3 (1915), or	Civil Engineering	15
Railroad Surveying, a 1 b 2 (1914)	Civil Engineering	7

Fifth Year Subjects in Civil Engineering

First Semester—

Gas and Oil Engines, a 2	Mechanical Engineering	11
Steel Buildings, a & b 3	Civil Engineering	16
Hydraulic Motor, a 3	Civil Engineering	18
Dam and Reservoir Design, b 3	Civil Engineering	17
Thesis, a 2	Civil Engineering	20
Elective, 5		

Second Semester—

Dynamo Electric Machinery, a 3 b 2	Electrical Engineering	3
Kinematics, b 2	Mechanical Engineering	14
Railroad Engineering, a 3	Civil Engineering	19
Thesis, a & b 3	Civil Engineering	21
Elective, 5		

Note—Electives must be chosen in the department.

General Science

FRESHMAN YEAR.

First Semester—

Rhetoric, a 3	English	9
Elementary Chemistry, a & b 5	Chemistry	1
Military Tactics, 3		
Elective, 11		
French, a 4, or	French	1
German, a 4	German	1
Principles of Cookery, a 2 b 3	Home Economics	3

Drawing, b 3	Art	14
Business Law, a 2 b 2	Commerce	9
College Algebra, a 5	Mathematics	8
Shopwork, b 3		

Second Semester—

Rhetoric, a 3	English	10
Elementary Chemistry, a & b 5	Chemistry	2
Military Tactics, 3		
Elective, 11		
French, a 4, or	French	2
German, a 4	German	2
Drawing, b 3	Art	15
Textiles and Principles of Sewing, a 2 b 2	Home Economics	11
Shopwork, b 3		
Plane and Spherical Trigonometry, a 5	Mathematics	9
Surveying, a & b 2	Civil Engineering	1

SOPHOMORE YEAR.

First Semester—

English Literature, a 3	English	11
Modern History, a 3	History	7
Military Tactics, 3		
Elective, a & b 14		
French, a 4, or	French	3
German, a 4	German	3
And two of the following:		
General Botany, a 2 b 3	Botany	2
General Zoology, a 2 b 3	Zoology	3
Quantitative Chemistry, a & b 5	Chemistry	3
General Physics, a 3 b 2	Physics	3
Analytic Geometry, a 5	Mathematics	11

Second Semester—

English Prose Literature from Johnson to Morley, a 3	English	12
Modern History, a 3	History	8
Elements of Military Science, a 1	Military	1
Military Tactics, 3		
Elective, a & b 14		
French, a 4, or	French	4
German, a 4	German	4
And two of the following:		
General Botany, a 2 b 3	Botany	3
General Zoology, a 2 b 3	Zoology	4
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
General Physics, a 3 b 2	Physics	4
Calculus, a 5	Mathematics	12

JUNIOR YEAR.

First Semester—

English Literature, a 3	English 13 or 15
American Government, a 2	History 13
Psychology, a 3	Education 1
Elective, a & b 10	

Second Semester—

English Literature, a 3	English 14 or 16
Political Parties, a 2	History 14
Ethics, a 3	Education 2
Elective, a & b 10	

SENIOR YEAR.

First Semester—

Economics, a 3	History 15
Geology, a 5	Agronomy 9
Elective, a & b 10	

Second Semester—

Sociology, a 3	History 16
General Astronomy, a 3	Mathematics 15
Elective, a & b 12	

Electives of Junior and Senior Years in General Science

First Semester—

General Botany, a 2 b 3	Botany 2
Plant Physiology, a 2 b 3	Botany 4
Cytology and Botanical Methods, a & b 5	Botany 8
Quantitative Chemistry, a & b 5	Chemistry 3
Agricultural and Sanitary Analysis, a & b 5	Chemistry 5
Industrial Chemistry, a 3	Chemistry 7
General Physics, a 3 b 2	Physics 3
Advanced Physics, a 4 b 1	Physics 5
Heat, a 3 b 1	Physics 7
Entomology, a 1 b 1	Entomology 3
Economic Entomology, a 1 b 1	Entomology 5
Systematic Entomology, b 2	Entomology 7
Insects and Disease, a 2	Entomology 10
Nature Study, a 3	Entomology 12
Animal Behavior, a 2	Entomology 13
General Zoology, a 2 b 3	Zoology 3
Comparative Anatomy of Vertebrates, a & b 3	Zoology 7
Histology, a & b 5	Zoology 9

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Embryology, a & b 5	Zoology	11
Bacteriology, a & b 5	Veterinary	6
Analytic Geometry, a 5	Mathematics	11
Analytic Mechanics, a 5	Mathematics	13
French, a 3	French	5
German, a 3	German	5
English Literature	English	15
The English Novel, a 3	English	19
Argumentation, a 3	English	23
Nineteenth Century History, a 3	History	11
History of the West, a 2	History	19
History of Education, a 3	Education	3
School Organization and Administration, a 3	Education	4
Principles of Teaching, a 3	Education	5
The Rural Community, a 2	History	17
Organic Chemistry, a 3 b 2	Chemistry	9
Theory and Practice of Design, a & b 2	Art	4
Art History, a 2	Art	6
Theory of Interpretation and Musical Forms, a 2	Music	6
History of Music, a 3	Music	7
Military Law, a 1	Military	2
Field Service Regulations & Military Field Engineering, a 1	Military	4

Second Semester—

General Botany, a 2 b 3	Botany	3
Taxonomy, a & b 5	Botany	7
Cytology and Botanical Methods, a 1 b 4	Botany	9
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
Chemistry of Foods and Nutrition, a & b 5	Chemistry	4
Agricultural Chemistry, a 3	Chemistry	6
General Physics, a 3 b 2	Physics	4
Advanced Physics, a 4 b 1	Physics	6
Light, a 3 b 1	Physics	8
Entomology, a 1 b 2	Entomology	4
Economic Entomology, a 1 b 1	Entomology	6
Systematic Entomolgy, b 2	Entomology	8
Bird Study, a & b 2	Entomology	11
General Zoology, a 2 b 3	Zoology	3
Comparative Anatomy of Vertebrates, a & b 5	Zoology	8
Advanced Mycology, a & b 5	Botany	6
Animal Behavior, a 2	Entomology	13
Organic Chemistry, a 3 b 2	Chemistry	10
Histology, a & b 5	Zoology	10
Embryology, a & b 5	Zoology	12
Heredity, a 2 b 1	Horticulture	7
Calculus, a 5	Mathematics	12
Analytic Mechanics, a 3	Mathematics	14

French, a 3	French	6
German, a 3	German	6
Contemporary American History, a 3	History	12
History of the West, a 2	History	20
Principles of Education, a 3	Education	7
Psychology of Child Development, a 3	Education	6
Observation and Practice, a 3	Education	8
Principles of Education, a 3	Education	7
Theory and Practice of Design, a & b 2	Art	5
Art History, a 2	Art	7
English Novel, a 2	English	20
English Drama, a 3	English	16
Argumentation, a 3	English	24
Theory of Interpretation and Musical Forms, a 2	Music	9
History of Music, a 3	Music	10
International Law, a 1	Military	3
Applied Tactics, a 1	Military	5
Meteroology, a 2 b 1	Agronomy	10
Agricultural Economics, a 3	History	18

Two Year Course in Pharmacy

FIRST YEAR.

First Semester—

Elementary Chemistry, a & b 5	Chemistry	1
General Botany, a 2 b 3	Botany	2
Anatomical Methods, a 3 b 2	Zoology	5
Pharmacy Latin, a 5	Pharmacy	1

Second Semester—

Elementary Chemistry, a & b 5	Chemistry	2
General Botany, a 2 b 3	Botany	3
Anatomical Methods and Physiology, a 3 b 2	Zoology	6
Pharmacognosy, a & b 5	Botany	1

SECOND YEAR.

First Semester—

Materia Medica, a 5	Pharmacy	2
Pharmacy, a 5	Pharmacy	4
Quantitative Chemistry, a & b 5	Chemistry	3
Pharmacy Laboratory, b 3	Pharmacy	5
Pharmaceutical Arithmetic, a 2	Pharmacy	6

Second Semester—

Materia Medica, a 5	Pharmacy	3

Pharmacy, a 5	Pharmacy	7
Volumetric Analysis and Drug Assaying, a & b 5	Pharmacy	9
Pharmacy Laboratory, b 5	Pharmacy	8

NOTE.—Students who have received the degree of Pharmacy Graduate may receive the degree of Bachelor of Science upon completing sufficient work in addition to the two-year course to make one hundred and fifty hours of credit.

Of the additional work the following courses are required:

Rhetoric	6 hours
English Literature	6 hours
History	6 hours
Modern Language	16 hours

and thirty hours elected in physics, chemistry, botany, toxicology, bacteriology, zoology, or histology. Students electing physics should take trigonometry.

Departments and Work

The Agricultural Experiment Station

JAMES W. WILSON, Director.

Under the provisions of the Hatch Act of March 2, 1887, and the Adams Act of March 20, 1906, the state now receives annually $30,000 from the treasury of the United States for the maintenance of an experiment station. By an act of the legislature this institution was made a part of the South Dakota Agricultural College. Its object is to investigate along agricultural lines, publish the results in bulletin form and distribute them to the residents of the state for their information and benefit. It consists of five divisions, namely: agonomy, animal husbandry, dairy, horticulture and chemistry.

Each of these divisions is in charge of an expert who is also professor of the same subject in the College.

About sixty acres of the college farm are set aside for experiments in crop rotation and testing varieties of grains.

Another sixty acres are utilized for experiments along horticultural lines, where trees, shrubs and vines are grown in profusion. Adaptation of grains, grasses, forage plants, fruits, trees, shrubs and vegetables for the Northwest is being carried on in co-operation with the United States Department of Agriculture and as a result many valuable varieties have been introduced which probably would not otherwise have reached us.

Each division is provided by the state with the proper facilities to conduct investigations, and at least four bulletins are published annually, which are free to residents of the state. Inquiries pertaining to the various agricultural interests are answered promptly. The regular bulletin mailing list of the station numbers over 19,000 names.

All communications to this department should be addressed to the Director.

Department of Animal Husbandry

PROFESSOR WILSON; ASSOCIATE PROFESSOR THOMPSON.

It is generally admitted that live-stock farming is the basis for an intensive agriculture and that it must be practiced as well as good farming if the fertility of the soil is to be maintained.

Work in this department gives the student a practical and scientific knowledge of animal husbandry as applied to South Dakota conditions. The College herds and flocks include representatives of eighteen of the leading breeds of domestic animals. These are all used for class and demonstration purposes. Men having completed this course are well equipped to manage live-stock farms and to judge at stock shows and to teach.

The following subjects are offered by this department:

1. **Stock Judging.**—Two recitation and two laboratory periods a week, first semester; required in the freshman year of the Agricultural Course. Study and practice in judging of horses, cattle sheep and swine. Special attention is given to the use of score cards both for market and breeding animals.

Text: Craig's Judging Live Stock.

2. **Breeds of Live Stock.**—Three recitations a week second semester; required in the freshman year of the Agricultural Course. A study of the various breeds, their origin, development, characteristics and adaptability as to the use and locality; work accomplished by the noted breeders of the past and present day reviewed.

Text: Plum's Types and Breeds of Farm Animals.

3. **Advanced Stock Judging.**—Two periods a week, first semester; required in the senior year of the animal husbandry group, Agricultural Course; prerequisite, Animal Husbandry 1 and 2.

Particular attention is given to the placing of animals and the giving of reasons why they are so placed. This course includes the judging of market, breeding and show animals.

4. **Principles of Animal Breeding.**—Three recitations a week, second semester; required in the junior or senior year of the animal husbandry and the dairy husbandry groups, Agricultural Course; prerequisite, Animal Husbandry 2. This course deals with the laws that govern reproduction and the development of animals, and the different systems employed in producing both market and breeding animals; study of blood lines and pedigrees.

Text: Davenport's Principles of Breeding.

5. **Animal Nutrition.**—Three recitations a week, second semester; required in the junior year of the animal husbandry group, Agricultural Course; prerequisite, Animal Husbandry 1 and 2, and Chemistry 2. This subject deals with the physical and chemical characteristics of the various feeding stuffs and their relation to practical feeding operations.

6. **Stock Feeding.**—Three recitations a week, first semester; required in senior year of the animal husbandry group, Agricultural Course; prerequisite, Animal Husbandry 5. A study of the feeding of the various classes of live stock, compounding of balanced rations, results of experimental and practical feeding investigations.

Text: Henry's Feeds and Feeding.

7. **Live Stock Management.**—Two lectures a week, second semester; required in the senior year of the animal husbandry group of the Agricultural Course; prerequisites, Animal Husbandry 1, 2 and 6. This course will consist of lectures pertaining to the proper locations for live stock farms, the kind and arrangement of buildings, founding and management of herds and flocks, capital required, methods of selling, etc.

8. **Market Types and Classes.**—Three lectures a week, first semester; required in the junior year of the animal husbandry group, Agricultural Course; prerequisite, Animal Husbandry 1 and 2.

Attention is given to the consideration of live stock markets, to the different classes and grades of market animals, and the use that is made of the different classes when slaughtered.

Department of Dairy Husbandry

PROFESSOR LARSEN; ASSOCIATE PROFESSOR FULLER;
MR. BAILEY; MR. GREGORY; MR. SHANLEY.

This department offers three separate courses: (1) The Four-Year Agricultural Course, the last one and a half years of which are devoted chiefly to special dairy studies. (2) The Three-Months Dairy Course. (3) The one-week course for cream testers.

The first course has been outlined with a special view of fitting young men to become teachers and investigators of dairying in public schools, agricultural colleges and experiment stations, inspectors of creameries and dairy products in municipal, state and government service and superintendents of large creameries and dairy farms.

The second course is given with a view of training men to become successful operators of creameries, cheese factories, central plants and dairy farms.

The one-week course is given in December in order that examinations for licenses may be taken before January first.

The demand for good men properly trained along dairy lines is great. Compensation for dairy and creamery work is good. Worthy students can depend upon the co-operation of this department in securing suitable work.

The Dairy Husbandry Department operates on a commercial basis a well equipped creamery and cheese factory throughout the year. The department occupies a two-story brick building. On the first floor are the engine room, creamery rooms with full equipment for butter, cheese and ice cream making, refrigerating rooms, locker and reading room, and a large laboratory used for instructional purposes. On the second floor are located class rooms, offices, dairy bacteriology laboratory, and chemistry research laboratory.

The dairy herd, which consists of representatives of the principal dairy breeds, affords an excellent opportunity to become acquainted with dairy type. The dairy barn is large and well equipped. Milking machines are in daily use, thus affording students opportunity to acquire practical knowledge regarding machine milking.

Experiments relating to feeding, breeding and care of dairy stock and the manufacture of dairy products are in progress at all times. Students may have advantage of keeping in touch with these experiments, note manner of outlining and executing investigational work, and profit from results. Advanced worthy students may arrange to assist in some of this work.

The following work is offered:

1. **Farm Dairying.**—Two lectures and one laboratory period a week, second semester; required in the freshman year of the four-year Agricultural Course, and with some modification during the first year of the School of Agriculture.

This subject comprises a study of the economic production, secretion and composition of milk; of the comparative economy in disposing of and utilizing milk for various purposes on the farm, of testing milk and its products for fat, acid and common adulterations; of the effects of germ and degree of purity on dairy products; of the separating and handling of milk and cream and the manufacture of butter and cheese on the farm.

2. **Inspection and Testing of Dairy Products.**—Four lectures and laboratory periods a week, first semester; required in the junior year of the dairy group, Agricultural Course.

Those taking this course should have had at least one term's work in chemistry. It embodies a thorough study of the Babcock test for fat, of the lactometer and its application, of the tests for determining the acidity of dairy products, of the various tests for moisture in butter, of the influence and detection of different preservatives and adulterations, and a study of the various pure dairy food standards.

3. **Dairy Bacteriology.**—One lecture and two laboratory periods a week, second semester; required in the senior year of the dairy group, Agricultural Course.

In this course are taught bacteriological principles as related to dairying, contamination of milk, fermentations of milk, and their control, relation of disease bacteria to milk, preservation of milk for commercial purposes, bacteria as related to the manufacture of butter, and bacteria as related to the manufacture of cheese. General bacteriology is a prerequisite study.

4. **Factory Operation (Creamery).**—Three lectures and two laboratory periods a week, first semester; required in the junior year of the Dairy Husbandry group, Agricultural Course; prerequisite, Dairy 2.

A thorough study of the receiving, sampling and separation of milk and cream, the preparation and use of starters, pasteurization and ripening of cream, principles of churning, washing, salting, working, packing and marketing butter. Attention will also be given to the organization, location, construction, drainage, cooling and ventilation of factories and creameries, the economic disposal of factory by-products and various methods of factory refrigeration.

5. **Factory Operation (Cheese).**—Three lectures and two laboratory periods a week, second semester; required in the senior year of the dairy group, Agricultural Course.

This course comprises a study of milk as applied to cheese-making, the manufacture of hard and soft cheese, including the principles involved in the setting, cutting, cooking, dipping, milling, salting, pressing, curing and marketing of cheese.

6. **Dairy Management.**—Two lectures and one laboratory period a week, first semester; required in the senior year of the dairy group, Agricultural Course.

The various methods of improving and upbuilding a dairy herd, and the advanced judging of dairy stock will be emphasized, methods of weighing, testing and recording feed consumed and milk produced by each cow will be outlined. The history and adaptability of various dairy breeds to different conditions and relation of dairy types to milk producing capacity will be studied. This course will also embody study of the extent to which dairy farming is practiced and under which conditions it is best applicable, of dairy farming as an adjunct to general farming and the arrangement and construction of dairy farm buildings, stalls, yards, etc.

7. **Dairy Technoloogy.**—Two lectures and two laboratory periods a week, second semester; required in the junior year of the dairy group of the Agricultural Course; prerequisite, Chemistry 2 and Dairy 3.

This course treats of the ways in which milk and its products are utilized outside of the scope ordinarily embraced under dairying. It comprises such subjects as value of milk as a food, the preparation of certified, modified, standardized, fermented and condensed milk, the manufacture of casein, milk ivory, milk sugar, renovated butter and oleomargarine.

8. **Dairy Research.**—Second semester, senior year; elective in the junior or senior year. A study of various views held by different authorities on certain important dairy subjects, a digest of recent dairy work of the experiment stations, and of comparative dairying as practiced in leading countries. A reading knowledge of German is recommended.

9. **Dairy Practice, Elective.**—The college has a commercial creamery and cheese factory in operation every day during the year except Sunday. Students who specialize in dairying and need practical experience should make it a point to take this course. Arrangements can be made to do this practical work at almost any time during the year. Vacation time is recommended.

10. **Domestic Dairying.**—One lecture and one laboratory period a week; elective. This course includes lectures and laboratory work on such phases of dairying as will be of greatest interest and value to ladies and home life, such as properties of milk, the various uses of milk, and each of its component parts for the home as well as for commercial purposes, and the relation of germs to quality of dairy products and to consumers of dairy products. The detection of adulteration of milk and dairy products, the use of the Babcock test for fat, effects of different ferments on milk and dairy products, and the making of cheese and butter on the farm will be demonstrated in the college creamery laboratory.

Department of Veterinary Medicine

DR. LIPP; MR. ATWOOD.

Part of the work given in this department is planned to correlate with other work given in the Department of Animal Husbandry. Other work is of such character as will be of very material aid to the educated farmer in helping him to realize the seriousness of the infectious and contagious diseases and to co-operate with local and state authorities for their control and eradication.

Some of the commoner ailments of farm animals are considered especially with regard to their prevention. None of the work is planned to prepare the student to treat diseases of farm naimals. Barnyard hygiene is given considerable attention along with disease prevention.

1. **Veterinary Anatomy.**—Two recitations per week, second semester; required in the freshman year of the Agricultural Course. The lectures consist of a brief study of the anatomy of the front limb of the horse, and are planned to give the student an introduction into anatomical study, to prepare him for better work in stock judging, and also for the courses in anatomy of conformation and soundness, and animal mechanics respectively. A somewhat detailed study of the structure of the foot, and various forms of lameness are included since they will be of value in all matters relating to horeshoeing and lameness in farm horses.

2. **Veterniary Medicine.**—Three lectures per week, first semester; required in the senior year of the Animal Husbandry group, Agricultural Course. This course deals with the cause, spread, symptoms, diagnosis and prevention of the common infectious and contagious diseases of farm animals.

No attempt is made to develop proficiency in diagnosis, but rather to aid the student to understand the contagiousness of the diseases studied, and teach him to give intelligent co-operation to local and state authorities.

3. **Anatomy of Conformation and Soundness.**—Two lectures per week, first semester; required in the junior year. It is planned to follow Veterinary Anatomy and correlate with it, also to be of further help to the student judging live stock. The anatomical differences in conformation and type are considered in detail, special attention being given to bones and joints.

4. **Animal Mechanics.**—Two lectures per week; required in the junior year, first semester. This course takes up a consideration of the animal body as a machine. The action of the bones as levers is given proper attention, also the use of muscles as power applied to the bony levers is considered fully. The aim of this course is to acquaint the student with those principles in physics which are in daily operation in farm animals on the roads and fields of the state.

5. **Stable Hygiene and Disease Prevention.**—Three lectures per week; required in the senior year, first semester. The course studies the needs of animals for ventilation, the best systems of ventilation, and lack of ventilation as a cause of disease.

Consideration of food and water as causes of disease is also included. Care and sanitation also come in for their full consideration. This course should be of the highest value to every educated stockman.

6. **Physiology of Digestion.**—This course occupies the last half of the second semester, following a course in general and human physiology. The course deals with the processes of digestion and assimilation in horses and cattle. Food is traced from the mouth through the various digestive processes to the tissues of the body. The use of the food within the tissues is then studied and the production of tissue waste. Finally the excretions and their composition are studied.

This course is planned to be of very material aid to the intelligent feeding of live stock. (See Zoology 4).

Agronomy Department

**PROFESSOR HUME; ASSOCIATE PROFESSOR HUTTON;
MR. CHAMPLIN; MR. LOOMIS; MR. OAKLAND.**

The Agronomy Department is the department of soils and crops. To help students apply the principles of science to crop production on the farms of South Dakota is the essential purpose of the courses offered.

What is soil in South Dakota, or on some farm within the state? The student may learn to outline soil areas, to analyze soils, to observe field experiments, and answer the question for himself.

What crops will grow on South Dakota soil areas, and how may the growing of them be made most profitable to the man who does the work? A study of the results of experiments will answer the questions for the student. It is attempted to give the student in agronomy that accurate knowledge of conditions which is necessary to success in farming.

The courses offered are fundamental, practical, scientific. They are designed for South Dakota farmers. They may be taken with profit by prospective teachers of agriculture, or experiment station workers.

1. **Farm Crops.**—Two recitations and three laboratory periods per week, first semester; required in the freshman year of the Agricultural Course. Grain judging and seed testing. Score-card judging of wheat, barley, oats, emmer, potatoes, corn and other crops. Weeds and weed seeds. Classification, harvesting, grading, cleaning, storage and care of crops. Open to all college students, without prerequisite.

2. **Farm Crops.**—Three recitation hours and two laboratory periods per week, second semester; required in the junior year of the agronomy group, Agricultural Course; prerequisite, Agronomy 1, or Botany 1, and one year of college work. Special crops adapted to South Dakota conditions; methods, cost and profit in production; practical and scientific arrangement of crop rotations with a view to better crops; the relation of the crops produced in South Dakota to the world supply. As much attention as possible is given to the improvement of crops by selection and breeding.

3. **Advanced Farm Crops.**—Elective in the junior or senior year; five to ten credits; prerequisite, Agronomy 2 and two years of college work. Special problems of advanced students. The advanced student may become interested in some particular line of investigation, as for instance, a problem in corn breeding, the effect of storing of seed of corn or other crops upon germination and growth, the effect of various methods of cultivation, and problems of crop improvement. Such work may imply a study of previous experiments, cropping experiments in green house or on the field. The student will submit a final report or thesis. Time and number of hours to be arranged with instructor in charge.

4. **Soil Physics and Management.**—Five lecture and laboratory periods a week, first semester; required in the junior year of the Agricultural Course; prerequisites, Physics 1 and 2, Chemistry 1 and 2. This course deals with the origin and development of the soil under different climatic conditions; classification of soils upon several bases; texture, porosity, specific gravity, plasticity, capillarity, granulation of soils; the soil as a reservoir for water; the movement and control of soil water; irrigation and drainage; the alkali problem; aeration of the soil, its relation to soil texture and plant growth; soil temperature; the physical effect of manures upon the soil; soil erosion by wind and running water—blowing and washing—and their control; the practical application of the fore-

going to methods of tillage; crop rotations and the application of green and farm manures in the management of different types of soil. The laboratory work includes a careful study of the physical properties of the soil through observation and practice; soils are also studied under field and green house conditions.

5. **Soil Fertility.**—Five lecture and laboratory periods a week, second semester; required in the junior year of the Agricultural Course; prerequisite, Agronomy 1 and 4, and Chemistry 3. The relation of the fertility content of the soil to crop yields; effect of supplying various elements of fertility; effects of different rotations and systems of farming in relation to permanent agriculture; a study of a system of agriculture in relation to permanent agriculture; a study of a system of agriculture adapted to South Dakota conditions. The laboratory work includes the analysis of manures and fertilizers and the determination of their agricultural and commercial values; the analysis of various farm products; the analysis of a soil, preferably from the student's home farm, to determine the fertility content. These analyses serve as the basis for devising a system of permanent agriculture for the student's home farm.

6. **Advanced Soil Physics.**—Five lecture and laboratory periods a week, first semester; elective in the senior year; prerequisite, Agronomy 4. This course is designed for those students who wish to continue the work in Soil Physics begun in Agronomy 4. A study in the field of the effects of discing, harrowing, rolling, subsoiling, frequency and depth of cultivation with reference to conservation of soil moisture. The student may select a soil in which he is interested and make a complete physical analysis thereof; he may make a careful study of the movement of the water therein and its effect upon the growth of plants; he may choose a special irrigation or drainage problem in which he is interested; the results of the work are summarized in a final report or thesis. Students who elect this course are advised to signify their intention of so doing at the end of the college year, so that materials may be collected during the summer, and observations reported.

7. **Advanced Soil Fertility.**—Five lecture and laboratory periods a week, second semester; elective in the senior year; prerequisites, Agronomy 4 and 5. This course is a continuation of Agronomy 5 and permits the student to study in detail a special soil in which he may be interested or to pursue a special problem. The work may include pot culture work in the green house analysis of the soil used in the pots; application of various fertility elements and their relation to the management of the soil; the study of the micro-organisms of the soil in relation to the preparation and availability of plant food, preparation of culture media, cultures from soil suspensions, preparation and study of a few pure cultures, ammonification, nitrification, nitrogen fixation, legume bacteria and conditions

favorable to their growth, inoculation; results of bacterial action determined by quantitative analysis; reading of bulletins, books, etc., and the preparation of a bibliography. The results of the study will be submitted in a final report or thesis.

8. **Soils.**—Two hours per week, second semester; elective in the senior year. A consideration of the effects of the change in water contents of soils through irrigation and drainage; the effect upon the physical condition of the soil and upon its productivity, special attention given to the problems of irrigation and drainage of unreclaimed lands in South Dakota. Lectures, reading, field observations.

9. **A Series of Lectures on Various Subjects Pertaining to Soils and Crops.**—Given by request of the Department of Dairy Husbandry for the students of the three months Creamery Course.

10. **Earth Science; Geology.**—Three recitations and two laboratory periods a week, first semester; required in the senior year of the General Science and Civil Engineering Courses and in the Agronomy group of the Agricultural Course. A course in general geology with the greater emphasis placed upon the physical division of the subject. The geology of South Dakota in relation to soils, water supplies and mineral wealth is given special attention. Collections of rocks, minerals, typical fossils, physiographic and geologic models, lantern slides, charts and maps are available for laboratory work and reference.

11. **Earth Science; Meteorology.**—Two recitations and one laboratory period a week, second semester; elective in the junior year or senior year. A practical course dealing with the laws controlling the movements of the atmosphere, the study of climatological and weather factors, with special attention to conditions in the United States, the climate and weather of South Dakota in relation to her various economic interests, weather maps and forecasts.

Graduate Courses.—A limited number of courses of study may be arranged for students who have already received the Bachelor's Degree and who desire to pursue some line of investigational work. Such students should consult with the professor in charge. Problems relating to systems of farming and soil fertility, mechanical composition of soils, drainage water, variation in type as related to crop yields, influence of selection and breeding upon yield of special crops may be included in a list of possible studies for graduates.

Department of Horticulture and Forestry

PROFESSOR HANSEN; MR. STOLTENBERG.

In this department the work is given from two standpoints. In one, especially in the study of genetics, emphasis is placed upon the general philosophy of the subject as being essential to a general education. The claim is made that some of the principles of horticulture and forestry are essential to any well rounded education and to the best preparation for citizenship. The second standpoint is that of students intending to make a life work of horticulture or forestry, either as a business or a profession. Throughout the course full use is made of the student's attainments in the various sciences underlying these subjects. The variation of plants and the principles and methods of their development under the hand of man are considered, as well as their propagation and cultivation.

Field and laboratory exercises emphasize the lectures and recitations of the class room. The habit of independent investigation and close observation is encouraged by requiring written reports of outdoor excursions or demonstrations. Excellent facilities for practical illustration are offered by the ninety acres of experiment station horticulture grounds and college campus. In this domain are included orchards, forestry plantations, nurseries, vegetable gardens, small fruit plantations, flower borders and a collection of ornamental plants. Special attention is paid to the breeding of hardy fruits adapted to prairie conditions and the work in this line is now second to none in extent. The department greenhouses consist of two sections, one for the general floriculture work and the other for fruit-breeding experiments. In addition, the horticultural buildings contain class rooms, laboratory, grafting and potting rooms and storage cellars.

Special stress is placed upon practical work in the grafting room.

The following work is offered:

1-2. **General Horticulture.**—One laboratory period a week throughout the year; required in the sophomore year of the Agricultural Course. An introduction to the various divisions of horticultural work, especially the propagation of plants and the best western nursery methods of planting, pruning and cultivation. Special attention is given to the grafting and budding of fruit trees. Elementary exercises in the identification and description of fruits and the origination of new varieties. Students are required in their laboratory notes to give the reasons why as well as the methods.

3. **Floriculture and Market Gardening.**—One recitation and laboratory period a week, second semester; required in the junior year of the horticulture group, Agricultural Course.

The commercial and amateur cultivation of flowers and vegetables under glass and in the open air; lectures, demonstrations, and text book work.

4. **Forestry.**—Two lectures or recitations a week, first semester; required in the senior year of the horticulture group, Agricultural Course.

Principles of forestry; the influence of forests on climate; timber planting on the prairies; European forestry methods as modified by prairie conditions; shelter belts; the propagation, cultivation, characteristics and use of forest trees; lectures and demonstrations.

Texts: Pinchot's Primer of Forestry; Green's Forestry in Minnesota; Proceedings of the American Forestry Congress.

5. **Systematic Pomology.**—One laboratory exercise a week, first semester; required in the junior year of the horticulture group, Agricultural Course.

Principles of fruit culture with special reference to prairie conditions; exercises in the identification and description of fruits. Texts: American Horticultural Manual, Bailey's Principles of Fruit Culture.

6. **Landscape Gardening.**—Two laboratory periods a week, second semester; required in the senior year of the horticulture group, Agricultural Course.

The philosophy of the beautiful in its various modes of expression; gardening as one of the fine arts; historic developments of the ancient or geometric and the modern or natural styles; the best ornamental trees, shrubs, plants and hedges. Special attention is paid to the development of originality in the planning and laying out of country and city home grounds, parks and school grounds; lectures; text-book, and references.

7. **Heredity.**—Three recitations a week, second semester; required in the junior year of the horticultural group, Agricultural Course.

This subject is especially recommended to students of the sciences relating to plants and animals, and also to students of general history and sociology. The evolution of plants and animals under the hand of man and in the state of nature; the philosophy of artificial evolution or the modification and amelioration of plants and animals by environment, selection and hybridization; the relation of genetics to society; recent theories and work in plant-breeding.

Texts: Darwin's Animals and Plants under Domestication; De Vries' Species and Varieties, their Origin by Mutation; Bailey's

Plant-Breeding and Survival of the Unlike; Reports of International Conferences on Genetics; Reports of the U. S. Department of Agriculture.

8. **Plant Propagation.**—Practical exercises in tree, shrub and plant propagation for students in the short agricultural course.

9. **Floriculture and Home Gardening.**—Instruction in home gardening for the students in the short winter course in domestic economy and agriculture; text-books; practical demonstrations and exercises.

10. **Forestry and Landscape Gardening.**—Lectures and exercises in the leading essentials of tree culture and the planting of home grounds for students in the short winter courses in agriculture.

Department of Home Economics

MISS TOUGH; MRS. NICHOLS.

The purpose of the department is to provide training along the lines of intelligent house-keeping and home-making. The location for carrying on the work is most favorable, being the entire third floor of the North Building, where there is abundance of room, air and light. The rooms consist of a large kitchen, a dining-room, a sewing-room and a recitation room provided with the equipment necessary for carrying on the work. Through the general library, opportunity is given for the use of the newest and best literature relating to the subject.

The work offered is intended to impart knowledge, develop skill in execution, stimulate self-direction and broaden and strengthen the individual. A good foundation of pure science is laid for all applied science while handwork, including sewing, gives opportunity for artistic expression the principles of which are gained through the regular art training.

The general subjects of the department are as follows:

For Home Economics 1 and 2, see the preparatory department.

3. **Principles of Cookery.**—Two recitations and three laboratory periods a week, first semester; required in the freshman year of the Home Economics Course; elective in the freshman year of General Science Course; freshman or higher classification necessary. The work covers the study of food in source, composition, nutritive value, preparation and serving with training in care of kitchen and utensils.

4. **Serving and Dietetics.**—One recitation and two laboratory periods a week, second semester; required in the junior year of the four year Home Economics Course; elective in the junior year of General Science Course in place of Physics 4; prerequisite, Botany 2, Chemistry 3, Zoology 3 and Home Economics 1. The work includes preparation of menus with special reference to balanced diet, cost, cooking and serving of meals and calculation of dietaries.

5. **Special Problems in Cookery.**—One recitation and two laboratory periods a week, second semester; required in the senior year of the four year Home Economic Course; prerequisite, Botany 2, Chemistry 3, Zoology 3 and Home Economics 2.

The course covers diet for children and invalids and other advanced work in dietetics.

6. **Sanitation and Hygiene.**—Three recitation periods a week, first semester; required in the senior year of the Home Economics Course; elective, together with Home Economics 6, in the junior year of the General Science Course in place of Physics 3; prerequisite, Chemistry 2, Botany 2 and Zoology 2. The course includes consideration of municipal and rural problems in sanitation, the care and handling of food in the market and in the home, the lighting, heating, ventilation, plumbing and general care of the house.

7. **Home Nursing.**—Three recitation periods a week, first semester; required in the junior year of the four year Home Economics Course. Senior classification or special advanced standing necessary. The work covers the general care of the sick, directions for emergencies and consideration of some common diseases.

8. **The House and Market.**—Three recitations a week; required in the first semester of the senior year of the four year Home Economics Course; elective, together with Home Economics 4, in place of Physics 3, in junior year of the General Science Course. The work embraces construction, furnishing and general care, including management and cleaning of the house and its equipment, the cost of necessary articles, purchase and care of food, the preparation of marketing lists and a study of accounts.

10. **Textiles and Principles of Sewing.**—Two lecture and two laboratory periods a week, second semester; required in the freshman year of the Home Economics Course; elective in the freshman year of the General Science Course. The course covers the making of simple and useful articles in which are incorporated the stitches necessary for garment making; the making of a set of undergarments is also required. A study is made of the fabrics used in such work along the lines of source, manufacture, general characteristics and qualities and adaptations to specific uses.

11. **Dressmaking.**—One recitation and two laboratory periods a week, first semester; required in the sophomore year of the Home

Economics Course; prerequisite, Home Economics 9. The work includes drafting, cutting, fitting, and making of a shirt-waist suit. Supplementary work, to meet individual needs, may be required.

12. **Advanced Dressmaking.**—Two recitation and one laboratory period a week; second semester; required in the junior year of the Home Economics Course; prerequisite, Home Economics 10 and 11. The course covers the making of a fitted and lined costume and such other work as seems best for the individual.

Department of Mechanical Engineering

PROFESSOR SOLBERG; PROFESSOR COOK; MR. BONELL; MR. PHILLIPS.

The object of the work offered is to give the students a thorough training in the theoretical principles underlying the science of mechanics and machines and at the same time to enable them to become particularly familiar with some of the numerous applications of these principles which are of such inestimable value to the human race.

The instruction is both theoretical and practical. The usual methods of text-book study and lectures are employed, but the student is required to put into practice, as far as possible, the instruction he receives. Hence the work of the class-room is supplemented and practically exemplified by practice in shops. The student not only studies the theories of constructing and operating machinery, but in the drawing room he designs, and in the shop he constructs and operates such machines. It is believed that those who complete this course will be able to fill responsible positions in manufacturing establishments.

The department is located in the Engineering Building. The workshops are supplied with a large variety and quantity of tools. They are furnished with twenty-five sets of carpenter tools and with eight wood turning and one pattern maker's lathe, a scroll saw, a combination circular saw and a twenty-inch planer. There is also a variety of special tools for wood working.

The machine shop is furnished with a large number of engine lathes of different sizes, a universal milling machine, shaper, planer, tool grinder, drill press, emery wheels and a great variety of hand tools. The machinery is driven by a 50-horse power steam engine.

The Experimental Engineering Laboratory is equipped with a 100,000 pound vertical screw testing machine, for making tensile and compressive tests of the various materials of construction; an automatic shot cement briquette testing machine; a gas engine; a 10 by 10 steam engine; an 8 by 10 steam engine; a 5 by 7 steam engine, and there are also available for this work a 12 by 14 steam engine and two 48 by 16 horizontal tubular boilers. A calorimeter for determining the heat values of gases; a calorimeter for making British thermal unit tests of coal; and an apparatus for flue gas analysis are also used in this work.

The laboratory also possesses a large amount of small apparatus such as indicators, planimeters, steam gauges, thermometers, etc., and a complete outfit for making tests of sand, cement and concrete.

Work in architectural drawing and designing is offered. Additional work along this line will be given to students who desire it.

A number of pictures, drawings, and illustrative material has been recently added to the equipment through the liberality of manufacturers and friends of the College.

The following work is offered:

For Mechanical Engineering 1 and 2, see the preparatory department.

3. **Machine Shop.**—Three laboratory periods a week, second semester; required in the freshman year of the Mechanical and the Electrical Engineering Courses. Manipulation of the various machines in turning, planing, shaping, milling, gear cutting and tool making.

4. **Machine Shop.**—Three laboratory periods a week, second semester; required in the freshman year of the three Engineering Courses. Includes a study of the materials used in machine work; shop sketching; methods of laying out work; exercises in pipe fitting, chipping, filing, scraping, belt lacing, shaft aligning, babbitting, riveting, soldering, hand and ratchet drilling; and the elementary principles of machine work.

5. **Machine Shop.**—Five laboratory periods a week, first semester; required in the sophomore year of the Mechanical and Electrical Engineering Courses. Includes a study of the principles and methods of machine work; problems involving the use of the various machine tools, as the lathe, planer, shaper, milling machine, drill grinder, drill press, etc. Regular text book and class work supplements the actual work in the shop during both semesters of machine shop. Prerequisite, Machine Shop 3.

6. **Architectural Drawing.**—Three times a week, first or second semester; required in senior year of the horticultural group, Agricultural Course. Rendered drawings of simple buildings, examples of various orders, giving facility in draughtsmanship, familiarizing students with principles.

6a. **Architectural Design.**—Three times a week, first semester; elective. Principles of planning introduced in practical problems, exercises in composition and details.

6b. **Perspective.**—Five times a week, first or second semester; elective.

7. **Descriptive Geometry.**—One recitation and laboratory period a week, second semester; required in the sophomore year of the three Engineering Courses; prerequisite, plane geometry. Instruction in methods of representing by drawing all geometrical magnitudes and solution of problems relating to these magnitudes in space.

8. **Machine Design.**—Four laboratory periods a week, second semester; required in the sophomore year of the Engineering Courses. Solution of various problems involving the design of simple parts of the machine.

9. **Machine Design.**—Two laboratory periods a week, first semester; required in the junior year of the Mechanical and Electrical Engineering Courses. Continuation of Mechanical Engineering 8.

10. **Elements of Mechanism.**—Three recitations a week, first semester; required in the junior year of the three Engineering Courses. Elements of machinery, velocity ratios, graphic representation of speed and acceleration; motion transmitting parts, such as gears, belts, cams, screws, link work; automatic feeds, parallel and quick return motions; designing. Text: Wood and Stahl.

11. **Gas Engines and Gas Producers.**—Two recitations a week, first semester; required in the senior year of the Mechanical and Electrical Engineering Courses and in the fifth year of the Civil Engineering Course; prerequisite, Thermodynamics. Study of the theory, design and operation of gas, gasoline and oil engines and of the various types of gas producers.

12. **Steam Engines and Thermodynamics.**—Five recitations a

week, second semester; required in the junior year of the three Engineering Courses; prerequisite, Calculus. Study of the modern steam engine, slide valve, and when in combination with independent cut-off valves, link motion and Zeuner diagrams, reciprocating parts and indicator practice; the principles of the theory of heat which are necessary to a study of the various kinds of heat engines; the application of laws of thermodynamics to the steam engine and a study of steam engine economy by entropy temperature analysis and by other graphical methods. Text: Ripper's Steam Engine.

13. **Steam Boilers.**—Two recitations a week, first semester; required in the senior year of the mechanical and Electrical Engineering Courses; prerequisite, Mechanical Engineering 16. Advantages and disadvantages of using the various forms of boilers, methods of construction, tubes and flues, plates, riveting, bracing, grate and heating surface, gages and feed appliances, setting, care and operation. Text: Peabody's Steam Boilers.

14. **Kinematics.**—Two laboratory periods a week, second semester; required for the fifth year degree in the Mechanical and the Civil Engineering Courses. Geometry of machinery, problems in the design of motion transmitting appliances.

16. **Mechanics of Materials.**—Five recitations a week, second semester; required in the junior year of the three engineering courses; prerequisite, Analytic Mechanics. Study of the strength and elastic properties of the materials of construction and the behavior of and characteristics displayed by these materials when put under stress. Text: Merriman's Mechanics of Materials.

17. **Experimental Engineering.**—Three laboratory periods a week, first semester; required in the senior year of the three engineering courses; prerequisite, Mechanics of Materials. Includes a series of tests of the various materials of construction, such as wood, cast iron, wrought iron, steel, sand, cement and concrete. Also includes the calibration of steam gauges, thermometers, planimeters, and the testing of oils.

18. **Experimental Engineering.**—Five laboratory periods a week, second semester; required in the senior year of the Mechanical and Electrical Engineering Courses. Includes a complete series of tests of the heating values of various coals; use of the steam engine indicator, throttling and separating calorimeters, dynamometers and Prony brakes; and complete efficiency tests of engines and boilers in actual operation. It is the endeavor in this work to make each student thoroughly familiar with the construction and operation of steam engines, steam boilers, gas engines, and the many attachments and auxiliaries necessary for their efficient operation.

19. **Engineering Design.**—Five laboratory periods a week, first semester; required for the fifth year degree in Mechanical Engineer-

ing. Solution in the drawing room of some practical problems in design and making working drawings of same.

20. **Engineering Design.**—Five laboratory periods a week; second semester; required in the senior year of the Mechanical Engineering Course. Continuation of Mechanical Engineering 19.

21. **Structural Design.**—Three laboratory periods a week, first semester; required for the fifth year degree in Mechanical Engineering. Design of roofs and buildings for power stations. For students in mechanical and electrical engineering.

22. **Structural Engineering.**—Two laboratory periods a week, second semester; required for the fifth year degree in Mechanical Engineering. Continuation of Mechanical Engineering 21, with special reference to results obtained from Mechanical Engineering 18.

23. **Statics.**—Two recitations a week, first semester; required for the fifth year degree in Mechanical Engineering. Treated with special reference to the requirements of engineers. Resolution and composition of forces; center of gravity; principles of equilibrium with numerous applications. Graphic as well as algebraic methods are used. The various hurtful resistances to friction are considered, and numerous problems worked out in the drawing room.

24. **Heating and Ventilation.**—Two recitations a week, second semester; required for the fifth year degree in Mechanical Engineering. A study of the principles underlying the design of the various systems of heating and ventilation in common use, including such details as loss of heat from buildings, problems in proportioning ventilating ducts; and the arrangement of systems of piping for steam and hot water. A study is also made of the various mechanical details entering into the installation of private plants and also plants operated from central stations.

25. **Masonry and Foundations.**—Two recitations a week, second semester; required of senior engineering students. A study of cement, concrete and building stone with special reference to their use in walls and foundations; bearing power of soils; design and construction of foundations of various kinds.

26. **Special Problems in Experimental Engineering.**—Two laboratory periods a week, second semester; elective; open to senior engineering students upon approval of head of their department.

27-28. **Thesis Work.**—Two and three hours a week, first and second semesters; required for the fifth year degree in Mechanical Engineering. At the beginning of the fifth year's work a subject is assigned to each student, which he is to investigate, and on which he is required to prepare a thesis. This work may involve original design, or it may involve an experimental investigation of the action of certain machines or appliances or of the phenomena developed by the action of certain mechanical forces. In the pursuit of this work the student is thrown largely on his own responsibility. He is expected to familiarize himself with the literature on the subject and to study thoroughly the methods involved in the subject selected. The subject chosen should be submitted to the professor in charge not later than November first of the current year.

Department of Civil Engineering

PROFESSOR WILLIS.

The course in Civil Engineering is designed to give a broad education in the general and scientific subjects which form the foundation of all branches of technology; and to give as much special training as time will permit in several of the more important subjects which belong to that branch of technology known as Civil Engineering.

During the freshman and the sophomore years the greater part of the time is devoted to the fundamental studies which give both general culture and preparation for the technical work of the following years. The study of Physics, Mathematics, Chemistry and English is carried on; and work in Mechanical Drawing, Machine Shop and Machine Design is given. The theory of Plane and Topographical Surveying accompanied by field work and map drawing is begun in the freshman year and continued in the sophomore year.

During the junior and the senior years practically all of the time is devoted to purely engineering subjects, a large portion of which is given by the Civil Engineering Department. These subjects, the time alloted to them, and the methods of treatment have been chosen with care and with due regard to the end in view, which is to graduate men who know how to think correctly for themselves and who are thoroughly prepared to enter any of the several branches of engineering and to make good in the truest sense. These subjects might be considered as falling naturally into three groups or divisions of civil engineering, namely: (1) Municipal Engineering, including the subjects of Surveying, Roads and Pavements, Hydraulics, Sewerage, Water Supply and Irrigation—subjects which are as important to the farm, however, as to the municipality; (2) Railroad Engineering and Geodetic Surveying; (3) Structural Engineering and Building Construction, including the subjects of Graphic Statics, Stresses, Structural Details, Structural Design, Bridges, Dams and Reinforced Concrete. A working knowledge of the laws relating to engineering contracts and specifications is of great value to all engineers and a short course in this subject is given.

To aid it in carrying on its work, the department is provided with suitable equipment, which includes transits, levels, plane table, solar attachment, current meter, planimeter, protractor, rods, tapes and various hand instruments.

Men completing the work of the four-year course in this department are graduated with the degree of Bachelor of Science (B. S.). Those completing the additional fifth year course of study are given the advanced degree of Civil Engineer (C. E.).

A detailed description of each subject offered by the department follows:

1. **Plane Surveying.**—Two periods of recitation and field work per week, second semester; required in the three Engineering Courses and elective in the General Science Course, freshman year. The theory and practice of land surveying, including United States land surveys, computation of areas, dividing land and determining heights and distances. Field work with level and transit in determination of heights and distances and in making surveys of farms. Preparation required: Plane Trigonometry and Mechanical Drawing. Text: Raymond's Plane Surveying.

2. **Plane and Topographical Surveying.**—One recitation and four field and drafting room periods per week, first semester; required in sophomore year of the Civil Engineering Course. Preparation required: Civil Engineering 1. Continuation of Plane Surveying together with the theory and use of the plane table, and of the transit and stadia. Pen topography and detailed field work; the construction of topographic contour maps, leveling, triangulation and adjustment of instruments. Text: Tracy's Plane Surveying.

3. **Graphic Statics.**—Two drafting room periods per week, first semester; required in the junior year of the three Engineering Courses. Preparation required: Mathematics 10 and 11, General Physics 3. Shears and bending moments in beams, center of gravity and moment of inertia of cross sections, analysis of stresses in roof and

bridge trusses, mill bents and three hinged arches by graphical methods. Text: Merriman and Jacoby's Roofs and Bridges, Part II.

4. **Highway Construction.**—Two recitations per week, first semester; required in junior or senior year of Civil Engineering Course; also for the senior year of Mechanical Engineering Course for the year in which the subject is given. The location, construction and maintenance of country highways and city streets. Text: Baker's Roads and Pavements. Seniors and juniors take this subject at the same time; and it is given in alternate years only. It will be given in 1915.

5. **Hydraulics.**—Three recitations per week, first semester; required in junior year of the three Engineering Courses. Preparation required: Mathematics 11 and 12, General Physics 3 and 4. Hydrostatics and theoretical hydraulics. The study of flow of water through orifices, tubes, pipes, over weirs, in conduits, canals and rivers; and application to engineering, water power plants and development. Text: Merriman's Hydraulics.

6. **Stresses.**—Four recitations per week, second semester; required in junior year of Civil Engineering Course. Preparation required: Mathematics 13 and Graphic Statics. The theory and computation of stresses in roof and bridge trusses under dead, live and wind loads. Locomotive wheel loads on plate girders and bridge trusses. Text: Merriman and Jacoby's Roofs and Bridges, Part I.

7. **Railroad Surveying.**—One recitation and two field and drafting room periods per week, second semester; required in junior or senior year of Civil Engineering Course. Preparation required: Civil Engineering 1 and 2, Mechanical Engineering 7. Reconnoissance, preliminary and location methods, with theory of curves and turnouts. Location of a line, with the preparation of profiles and maps. The computation of earth-work and estimate of cost. Text: Allen's Railroad Curves and Earthwork. Seniors and juniors take this subject at the same time and it is given in alternate years only. It will be given in 1914 and in 1916.

8. **Structural Details.**—Two lecture periods per week, first semester; required in senior year of Civil Engineering Course. Preparation required: Civil Engineering 3 and 6, Mechanical Engineering 16. Lectures on shop practice in making drawings and shop bills, and in designing connections and other details for structural steel, including the design of beams, bearings, grillages, columns, struts and girders. Solution of problems required. Handbooks: Cambria Steel and Bethlehem Steel.

9. **Structural Steel Design.**—Three drafting periods per week, first semester; required in senior year of Civil Engineering Course. Preparation required: Civil Engineering 3 and 6, Mechanical Engi-

neering 16. The design and the making of general and detailed drawings of beams, columns, grillages, and roof truss, a plate girder railroad bridge and a riveted or a pin connected truss bridge. Reference Book: Merriman and Jacoby's Roofs and Bridges, Part III, or Thomson's Structural Design and Typical Railroad Bridges.

10. **Geodetic Surveying.**—Two periods of recitation and field work per week, first semester; required in senior year of Civil Engineering Course. Preparation required: Civil Engineering 1 and 2, Mathematics 10 and 13. Elements of the method of least squares and the application to the adjustment of triangulation. The figure of the earth. Field work in triangulation and in determination of azimuth. Text: Merriman's Precise Surveying and Geodesy.

11. **Sewerage.**—Two recitations per week, first semester; required in senior or junior year of Civil Engineering Course, also in senior year of Mechanical Engineering Course for year in which the subject is given. Preparation required: Civil Engineering 5. A study of the design, construction and operation of sewerage systems and of the methods of sewage treatment and disposal. Text: Folwell's Sewerage. Seniors and juniors take this subject at the same time, and it is given in alternate years only. It will be given in 1914.

12. **Bridges and Dams.**—Two recitations and two drafting room periods per week including lectures, second semester; required in senior year of Civil Engineering Course. Preparation required: Civil Engineering 3, 6, 8 and 9. Continuation of Civil Engineering 9 and a study of higher structures, including continuous, draw, cantilever and suspension bridges and metallic arches. The theory and design of masonry walls, dams and arches. Text: Merriman and Jacoby's Roofs and Bridges, Part IV.

13. **Contracts and Specifications.**—Two recitations per week, second semester; required in senior year of the three Engineering Courses. Synopsis of the law of contracts as applied to engineering construction; study of typical contracts and specifications; riparian rights, boundary lines, survey descriptions, etc. Text: Johnson's Engineering Contracts and Specifications.

14. **Reinforced Concrete.**—Three recitations per week, second semester; required in senior year of Civil Engineering Course. Preparation required: Mechanical Engineering 16, Civil Engineering 8 and 9, Mathematics 13. A study of manufacture and properties of cement and reinforcing steel, and of the theory and design of plain and reinforced concrete construction. Text: Turneaure and Maurer's Principles of Reinforced Concrete Construction.

15. **Water Supply and Irrigation.**—Three recitations per week, second semester; required in senior or junior year of Civil Engineer-

ing Course. Preparation required: Civil Engineering 5. A study of the design, construction, operation and management of municipal water supply, and of irrigation works, including purification systems, reservoirs, pipe lines, pumping plants. Text: Truneaure & Russell's Public Water Supply and Newell & Murphy's Irrigation. This subject is taken by seniors and juniors at the same time and is given in alternate years only. It will be given in 1915.

16. **Steel Buildings.**—Three recitation and drafting room periods per week, first semester; required for fifth year degree in Civil Engineering. Preparation required: Civil Engineering 8 and 9. Design and general drawings of steel mill, mine and high office buildings, and arches.

17. **Dam and Reservoir Design.**—Three drafting room periods per week, first semester; required for fifth year degree in Civil Engineering. Preparation required: Civil Engineering 3, 5 and 15, Mathematics 11 and 13. The study of modern hydraulic construction. dams, reservoirs, levees, etc. Structures relating to water power, canals and irrigation.

18. **Hydraulic Motors.**—Three recitations per week, first semester; required for fifth year degree in Civil Engineering. Preparation required: Civil Engineering 5. A study of reaction and impulse wheels; construction, regulation, testing sources of loss of energy. Text: Church's Hyraulic Motors.

19. **Railroad Engineering.**—Three recitations per week, second semesters; required for fifth year degree in Civil Engineering. The construction of the roadbed, including ballast, crossties, rails, switches, culverts, maintenance of way and elements of railroad operation. Economic location, arrangement of yards, station and terminals. Train resistance. Application of electricity.

20-21. **Thesis.**—Two and three hours per week, first and second semester; required for fifth year degree in Civil Engineering. The thesis is intended to show the student's ability to apply the fundamental principles acquired in this course, in original investigation or design of some engineering structure, the student working independently and making regular reports showing the progress of the investigation or design to the professor having charge of the subject. The subject and plan of the work should be submitted to the professor in charge not later than November first of the current year.

Department of Electrical Engineering

PROFESSOR BRACKETT; ASSISTANT PROFESSOR HOY.

The purpose of the work offered in electrical engineering is to impart to the student a practical knowledge of the principles of applied electricity. A well equipped laboratory is provided for the use of the student to supplement the lecture and recitation work of the class room. The laboratory equipment consists of generators and motors of both direct and alternating current types, transformers and measuring instruments of different types and classes for recording and measuring currents, pressures and speeds. A sixty-cell storage battery is used in connection with the work in photometry. Various types of lamps, arc and incandescent, lamp banks, rheostats, and other apparatus are also available.

The student will be taught how to set up and adjust for the best conditions of operation all the usual types of dynamos, motors, transformers and standard auxiliary apparatus. Much additional laboratory work will be given to develop a clear understanding of the fundamental principles involved in the design of modern electrical machinery and in the most advanced engineering practice. The knowledge to be derived from this work is very important in the practical operation of electrical machinery and systems, but it cannot be obtained directly under the conditions of commercial service, where most of the apparatus must be used in one way only at all times.

The following courses are offered:

1. **Electricity and Magnetism.**—Three recitations and two laboratory periods a week, first semester; required in the junior year of the Electrical, Mechanical, and Civil Engineering Courses; prequisite, Mathematics 7, 8 and 9, Physics 4. This subject embraces a study of the theory and principles of static and current electricity, magnetism and the magnetic circuit, electro-magnetic induction and dlaws of the electric circuit, primary and secondary batteries.

2. **Electrical Measurements.**—One laboratory period per week, second semester; required in the junior year of the Electrical Engineering Course; prerequisite, Electrical Engineering 1. Instruction and practice in the use, care and standardization of ammeters, voltmeters, wattmeters, resistance standards, Wheatstone bridges, potentiometers, sensitive galvanometers and standard cells. Estimation of the accuracy and reliability of different methods of testing, the correction and elimination of errors.

3. **Dynamo Electric Machinery.**—Three recitations and two laboratory periods a week, second semester; required in the junior year of the Mechanical and Electrical Engineering Courses, and for the fifth

year degree in Civil Engineering; prerequisite, Mathematics 11, Physics 4, and Electrical Engineering 1. Theory of the magnetic circuit, magnetic induction in iron, principles underlying the design, construction and operation of generators and motors. Resistance and insulation tests, experimental study of the operation and behavior of different types of motors and generators, efficiency tests.

4. **Alternating Currents.**—Three recitations and two laboratory periods a week, first semester; required in the senior year of the Electrical Engineering Course, also for the fifth year degree in Mechanical Engineering, prerequisite, Mathematics 11, Physics 4, and Electrical Engineering 1 and 3. Study of the flow of alternating currents, inductance, capacity, principles of construction of alternating current generators and motors, transformers; measurements of inductance and capacity, wave form of pressure and current, efficiency tests of machines and transformers.

5. **Dynamo Design.**—Three laboratory periods a week, first semester; required in the senior year of the Electrical Engineering Course; prerequisite, Mathematics 11, Physics 4 and Electrical Engineering 1 and 3. In this course the student works out the design and makes drawings for a shunt or compound wound direct current generator or motor. The object of this course is to teach the theory of design of machines and to familiarize the student with the details and parts of the machine in relation to each other and to the machine as a whole.

6. **Electric Light and Power Distribution.**—Three recitations and two laboratory periods a week, second semester; required in the senior year of the Electrical Engineering Course; prerequisite, Mathematics 11, Physics 4, and Electrical Engineering 4. A study of the construction of standard transmission lines, both over head and under ground, resistance and inductance effects in these lines, kinds of apparatus used in the generating station and in the receiving station, distributing systems, arc and incandescent lamps, indicating and recording meters, laboratory work in lamp testing, in the calibration of instruments, and in other lines.

7. **Electric Traction.**—Three recitations and two laboratory periods per week during the first semester. Various features of electric car and train operation will be studied. Among these will be types of cars, motors and controlling apparatus, the operating characteristics of various types of equipment, power stations for this kind of service, transmission lines, substations, and distributing systems. A considerable portion of the time assigned for laboratory work in the subject will be given to the inspection of traction systems in actual operation upon which accurate and detailed reports will be required.

8. **General Principles of Electrical Engineering.**—Three class

exercises per week. The course will consist of a mathematical treatment of the fundamental principles of electricity and magnetism, and the application of these principles to circuits, systems and machines in regular commercial use. In some ways the course will be a review of all the electrical work of the two preceding years, but for the most part the methods used will be quite different and much more comprehensive. The object of the course is to give the student a better perspective of the whole subject of applied electricity and to develop more direct methods for solving problems in this field.

9. **Electrical Design.**—Three laboratory periods a week, first semester; required for the fifth year degree in Electrical Engineering; prerequisite, all the work required for the Bachelor's degree in this department. A study of the design of transformers, alternating current generators, induction motors, or some special kinds of apparatus, and the principles involved in the construction of the above.

10. **Power Stations.**—Two recitations and three laboratory periods a week, second semester; required for the fifth year degree in Electrical Engineering; prerequisite, Electrical Engineering 7 and 8. A study of the different types of stations, arrangement of boilers, engines, machines, switchboards and electrical apparatus, location of station with respect to distributing system; station operation and maintenance. A station design is worked out by the student and drawings of plans made, while according to circumstances, more or less of the laboratory time will be spent on experiments and tests relating to plant operation and control.

11. **Long Distance Transmission.**—Two recitations or lecture periods per week, second semester; required for the fifth year degree in Electrical Engineering; prerequisite, Electrical Engineering 1 to 7 inclusive. Study of long distance line construction, protective apparatus, switchboards, cutouts, regulating devices, etc., as exemplified in the latest practice; study of recent construction and installations, and application of theory. Present theoretical and practical limitations to efficient and profitable distribution over large areas, and the possibilities of future development.

12-13. **Thesis.**—Two or three periods a week, first and second semesters. A complete investigation of some electrical subject or apparatus or the design of a machine or other electrical appliance, containing when possible the results of personal and independent observation. The subject must be selected early in the year (not later than November first), and reports submitted from time to time concerning the progress of the work to the professor in charge.

Department of English

PROFESSOR BATES; ASSOCIATE PROFESSOR POWERS.

The aim of the department is two-fold: to train the student in the effective use of the English language in original composition; and to give him an intelligent appreciation of English literature.

For English 1 to 8, see the preparatory department.

9-10. **Rhetoric.**—Three recitation periods a week, throughout the year; required in the freshman year of all the courses leading to the degree of Bachelor of Science. Prerequisite, the English of the preparatory department. The main purpose of this course is to familiarize the student with the principles of rhetoric and to enable him to use them effectively in composition. To this end, written work is demanded constantly, and is carefully criticised both in the class room and in conferences between the instructor and the individual student. The work is supplemented with reading, in the choice of which the student is allowed considerable latitude.

11-12. **English Literature from 1625 to 1798.**—Three recitation periods a week, throughout the year; required in the sophomore year of the General Science and Home Economics Courses. This course consists in a study of the literature, exclusive of prose fiction, of the ages of Milton, Dryden, Pope and Johnson. A large amount of reading and frequent papers are required. Attention is paid, in lectures, to literary movements and to the relations between literature and other phases of the life of the time.

13-14. **English Literature from 1798 to 1892.**—Three recitation periods a week, throughout the year; required in the junior or senior year of the General Science and Home Economics Courses; elective in various other courses. This course covers the literature, exclusive of prose fiction, of the ages of Wordsworth and Tennyson. Much reading and occasional papers are required. Lectures are given on nineteenth century writers and literary movements, together with their relation to other phases of the life of the time. Frequent conferences are held between the instuctor and the individual student.

15. **English Literature, exclusive of Drama, from the Beginnings to 1625.**—Three recitation periods a week, first semester; elective in junior or senior year. In this course special stress is laid on ballad and epic, Chaucer, and the development of the language.

16. **English Drama from the Beginnings to 1625.**—Three recitation periods a week, second semester; elective in junior or senior year. Shakspere and his contemporaries receive the main emphasis.

17-18. **Scientific and Social Ideas in Recent Literature.**—Three recitation periods a week throughout the year. Required of sophomores in Agriculture and optional with German 1a and German 1b in the sophomore year of the Engineering courses. The aim of this course is to familiarize the students in the technical departments with some of the main scientific and social tendencies of the present time as these tendencies are mirrored in current and late nineteenth century literature in England and America. Questions of art-form receive only secondary consideration, the chief stress being put upon the thought-content of the literature studied. Frequent papers are required.

19-20. **The English Novel.**—Two recitation periods a week, throughout the year; elective in the junior or senior year. Owing to the large amount of reading, the course counts as three hours' credit each semester.

21-22. **Biblical Literature.**—Two recitation periods a week, throughout the year; elective in junior or senior year. Not given 1914-1915.

23-24. **Argumentation and Debate.**—Three recitation periods a week, throughout the year; elective in junior or senior year.

Department of Modern Language

PROFESSOR SPENCER.

A good reading knowledge of French or German, or of both, is imperative for students pursuing work along scientific, technical or historical lines, and they are indispensible as literary and cultural subjects.

Two years of German are offered in the preparatory course. In the General Science, the Home Economics and the Agriculture Courses of the College, either French or German is required during the freshman and sophomore years. In the Engineering Courses, during the sophomore year the students are allowed an option between beginning French and English literature. Elective work in both French and German is offered and the student is strongly advised to take a third year if possible of the language chosen.

In the beginning French a special division is arranged for the students of the Normal Course in Home Economics, and in the second year German a special division reads scientific German.

1. **German.**—Four recitations a week, first semester; optional in the freshman year according to above requirements. German grammar and composition; reading and telling short stories for practice in speaking German; memorizing selected poems. Text Joynes-Meissner's Grammar.

2. **German.**—Four recitations a week, second semester. Continuation of German 1. Storms' Immensee.

1a. **German.**—Four recitations a week. More advanced work in grammar and composition, and story telling, than in German 1. Constant practice in speaking German, and reading and memorizing of German poems. Texts: Moni der Geissbub and Gerstacher's Germelshausen or Immensee, etc. Joynes-Meissner's Grammar.

2a. **German.**—Four recitations a week, continuation of German 1a. Constant practice in speaking German; memorizing poems and selected passages. Texts: Joynes-Meissner's Grammar. Gerchichten von Rhein.

3. **German.**—Four recitations a week, first semester; optional in the sophomore year according to the above requirements. Prose and poetry of the last century; composition and conversation; memorizing of selected poems. Text: Joynes-Meissner's Grammar. Geschichten von Deutschen Stadten.

4. **German.**—Four recitations a week, second semester, continuation of German 3. Text: Schiller's William Tell. Additional reading and composition.

5. **German.**—Three recitations a week, first semester; elective in the junior or senior year. Written and oral composition, and readings such as Freytag's Journalisten and Goethe's Hermann und Dorothea.

6. **German.**—Three recitation a week, second semester; elective in the junior or senior year. Goethe's life and works; Goethe and Schiller; or Wenckebach's Meisterwerke des Mittelalters, with collateral reading.

FRENCH.

1. **French.**—Four recitations a week, first semester; optional in the freshman year according to the above requirements. French grammar and composition. Thorough drill in pronunciation; reading and practice in speaking begun very early. Text: Fraser and Squair's Grammar.

2. **French.**—Four recitations a week, second semester. Continuation of French 1. Dictation exercises, memorizing of selected passages, conversation. Text: Super's Reader.

3. **French.**—Four recitations a week, first semester; optional in the sophomore year according to the above requirements. Readings from nineteenth century writers; Koren's French composition.

4. **French.**—Four recitations a week, second semester. Continuation of French 3.

5. **French.**—Three recitations a week, first semester; elective in the junior or senior year. Corneille, Racine, La Fontaine; their lives and works; their influence on their contemporaries; the literature and society of their time.

6. **French.**—Three recitations a week, second semester; elective in the junior or senior year. Open to those who have completed French 5. Moliere and Voltaire; their lives and writings; their influence on French and English thought.

Department of History and Political Science

PROFESSOR HARDING.

The aim of this department is to introduce the student to such studies as may enable him to deal with economic problems and to fulfill his social and political duties; to develop in him the power to use critically and constructively the historical method, and especially to awaken in him an interest in the great field of history and political science and an enthusiasm for personal individual effort. Constant endeavor is made to teach the practical application of the social, political and economic experiences of the race to the problems of modern life.

The text-book is supplemented by lectures and class discussions based upon assigned readings or the original work of students. Students are encouraged in every way to make use of the College library, which is the tool house of this department.

For History 1 to 6, see the preparatory department.

7. **Medieval History.**—Three recitations a week, first semester; required in the sophomore year of the General Science and junior year of Home Economics Courses. A general survey of the history of Europe from the barbarian invasions to the close of the fifteenth century. Lectures, text-books, papers, reports and practices in application of the fundamental principles used in testing the value of historical material. Text: Robinson's History of Western Europe.

8. **Modern History.**—Three recitations a week, second semester; required of the same classes as History 7, of which it is a continua-

tion. History of Europe from the opening of the sixteenth century to 1815.

9. **American History.**—Three recitations a week, first semester; elective in the junior or senior year; prerequisite, History 7 and 8. A study of constitutional and political development from 1783 to 1829. Lectures, library work, reports, and careful study of assigned sources. Omitted in 1914-1915.

10. **American History.**—Three recitations a week, second semester. Continuation of History 9. The constitutional and political history of the United States from the beginning of Jackson's administration to the Civil War.

11. **Nineteenth Century History.**—Three recitations a week, first semester; elective in junior or senior year; prerequisite, History 7 and 8. A study of national development and of international relations between 1815 and 1870, prefaced by a brief survey of the French Revolution and Napoleonic Empire. A detailed study of the Restoration, the Revolution of 1848, the Unification of Italy and the Formation of the German Empire. International relations since 1870. Present day questions of European politics. Text: Robinson and Beard's Development of Modern Europe.

12. **Contemporary American History 1877-1913.**—Three recitations a week, second semester; elective in junior or senior year; prerequisite, one year of college history. The restoration of white dominion in the south, the economic revolution, the revolution in law and politics, parties and political issues, 1877-1896; federal legislation from 1877 to 1896; last phases of the silver situation; new phase in American diplomacy; the development of capitalism; the war with Spain; expansion and its problems; the administration of Theodore Roosevelt; Mr. Taft and republican disintegration; the campaign of 1912; policies of the Wilson administration. This course will be prefaced by a rapid survey of the reconstruction era. Text book, discussions, readings and reports.

13. **American Government.**—Two recitations a week, first semester. Required in the junior year of the General Science course. General survey of federal, state, and local governments in theory and practice. Emphasis in this course is placed upon real governmental operations. Text book, discussions, and reports. Text: Beard's American Government and Politics.

14. **Political Parties and Practical Politics.**—Two recitations a week, second semester. Required in the junior year of the General Science course. This course considers such topics as the characteristics and importance of parties, nominating methods, party machinery, campaign methods, party finance, educational and other suffrage qualifications, election laws, the spoils system, civil service reform,

machines and bosses, practical politics in legislative bodies, state and local politics, andd remedies for legislative evils. Text-book, discussions and reports: Ray's Political Parties and Practical Politics.

15. **Economics.**—Three recitations a week, first semester; required in the senior year of all the four year courses except the Pharmacy Course. A study of the fundamental laws of economic science. Text-book, supplemented by lectures on special subjects and assigned readings.

16. **Sociology.**—Three recitations a week, second semester; required in the senior year of the Home Economics and General Science Courses. The fundamental principles of social science. Text-book, supplemented by lectures and special reports.

17. **The Rural Community.**—Two recitations a week, first semester. Elective for juniors or seniors in the Agricultural and General Science groups. A general survey of the field of rural sociology, including the following topics: Types of communities, movements of population, advantages and disadvantages of farm life, social conditions and life of rural people, rural health and sanitation, the various social institutions of the rural community, boys' and girls' clubs, farmers' clubs, the grange, the rural church and the rural school, an analysis of the fundamental problems of rural life; the country life movement and the reorganization of rural social forces. Lectures, readings and reports.

18. **Agricultural Economics.**—Three recitations a week, second semester; required in the senior year of the Agricultural Course, elective in other courses. The economic elements in the production and distribution of agricultural wealth, the agricultural market, determination of price, speculation, business co-operation, credit facilities, ownership and tenancy, farmers' organizations, the farmer and legislation, problems of rural social life, the relation of the farmer to the state. Text-book, lectures, readings and reports.

19. **History of the West.**—Two recitations a week, first semester; elective in the junior or senior year. A study of the settlement of the West and of the influence of the West upon national development from 1815 to 1860.

20. **History of the West.**—Two recitations a week, second semester; elective in the same courses as History 19 of which it is a continuation. A study of the economic and political development of the West, 1860 to the present.

Department of Education

PROFESSOR McPROUD.

The courses in this department are organized with two specific ends in view: (a) to make clear in an introductory way the problems of the physical, mental, and moral life of the individual, and (b) to arrive at the safest, sanest, and most economical ways and means of solving these problems. The courses in Philosophy aim to give a general knowledge of the facts and laws of experience with special emphasis upon the relations of mind and body and upon the practical significance of the facts and laws for practical every-day life. The prevailing theories of life are studied with the aim of constructing in consciousness a wholesome basis for the fullest and most efficient living. The courses in Education are planned to give a clear grasp of the organization and administration of public education with special emphasis on the present theory and practice in educational procedure. The purpose is to make all courses concrete and practical.

1. **General Psychology.**—Three recitations per week, first semester; required in the junior year of the Agricultural, Home Economics, and General Science Courses. The structure and function of the nervous system; discussions of the several phases of the mental processes with special emphasis upon their origin and functions. Class room discussions, lectures, assigned readings, demonstrations and experiments. Text: Angell's Psychology.

2. **Ethics.**—Three recitations per week, second semester; required in the junior year of the Home Economics and General Science Courses. Beginnings and development of the different views of the moral life; theories of moral standards; practical problems; discussions, text-book work. Paulsen, Dewey, and Tufts, Browne, Seth and others are used as basis of the course.

3. **History of Education.**—Three recitations a week, first semester; elective in junior year. A study of the conscious effort of the human race to realize itself through educational processes from primitive times down to the present, with a view to discovering the best theory and practice of the nations at various stages of human development, and to the further end of discovering the best practice in modern education. Special emphasis is laid upon the modern period. Lectures, recitations, assigned readings, and a semester theme. Monroe's Brief Course is used as a basis of the course.

4. **School Organization and Administration.**—Three recitations per week, first semester; elective in the junior and senior years. An introduction into the history of school organization; different types of organization in Europe and America and their points of efficiency; the relation of Organization to the Administration of the Curriculum and to Instruction. Problems will be chosen to meet the needs of the class. Lectures, discussions, assigned readings, reports. Strayer and Thorndyke, Holmes, and Dutton and Snedden are used as the basis of the course.

5. **Principles of Teaching.**—Three recitations per week; second semester; elective in the junior and senior years. An application of the principles of Psychology to the technique of instruction. Principles of instruction as used in the drill lesson, in the deductive and deductive lessons, review and examination lessons, lesson plans and lesson planning, class-room management. Strayer's Teaching Process and Bagley's Class-Room Management are used as the basis of the course.

6. **Psychology of Child Development.**—Three recitations per week, second semester; elective in junior and senior years. Psychology a prerequisite. A study of the conditions and laws of the growth and development of the physical, mental, moral and spiritual life of the child; special emphasis on the genesis of the mental powers, the nature and method, and means of their unfolding; a study of the various stages in growth and the proper treatment of each; function of the instincts in growth and development. Lectures, discussions, readings, themes. Based upon Kirkpatrick's Fundamentals of Child Study, Barnes' Studies, and others.

7. **Principles of Education.**—Three recitations per week, second semester; electivie in the junior and senior years. Psychology a prerequisite. Study of phychological principles as applied to a scientific study of Education as a science; educational aims and values; the study of the science of education in its relation to individual and social needs and efficiency. A course in Educational Theory. This course differs from Principles of Teaching in that it is not the application of psychological principles to the technique of instruction; but rather is a study of the psychological foundations upon which systems of education are constructed, with a view to testing and measuring the efficiencies of those systems. Lectures, discussions, readings and reports. Based upon Henderson, Ruediger, Horne, Bagle. Elective in junior and senior years.

8. **Observation and Practice.**—Five periods per week, either semester. Daily practice and observation in the class room with full charge of a class under competent supervision. Daily lesson plans, carefully criticised, then followed by teaching. A careful study of the best pedagogical literature upon the subject taught. Offered

only to seniors who have completed practically the fifteen hours in pedagogy. Elective in the senior year.

Students taking this course should arrange in the preceding semester for the work.

Department of Mathematics

PROFESSOR BROWN; MR. MILLS.

The general work of this department is planned to cultivate habits of systematic and accurate thinking, as well as facility in making calculations. Independent effort is encouraged to the greatest possible extent, the solutions of problems and original demonstrations forming an important part of each course.

The class work in general astronomy is supplemented by the use of instruments in the observatory. These include a six-inch equatorial telescope, a transit instrument, a sidereal clock and a chronograph.

For Mathematics 1 to 6, see the preparatory department.

7. **Solid Geometry.**—Three recitations a week, first semester; required in the Engineering Courses, optional in the General Science Course, freshman year; prerequisite, Mathematics 6. All the important principles of the subject will be covered. Text: Sanders' Plane and Solid Geometry.

8. **College Algebra.**—Five recitations a week, first semester; required in the Engineering Courses, optional in the General Science Course, freshman year; prerequisite, Mathematics 4. Graphs, permutations and combinations, complex numbers, elementary theory of equations, determinants, partial fractions.

9. **Plane and Spherical Trigonometry.**—Five recitations a week, second semester; required in the freshman year of the Engineering Courses; optional in the freshman year of the General Science Course; prerequisite, Mathematics 6. The elementary notions of trigonometry; solutions of triangles.

11. **Analytic Geometry.**—Five recitations a week, first semester; required in the Engineering Courses, sophomore year; prerequisite, Mathematics 8 and 9.

12. **Calculus.**—Five recitations a week, second semester; required in the sophomore year of the Engineering Courses; prerequisite, Mathematics 11. Continuation of Mathematics 11.

13. **Analytic Mechanics and Calculus.**—Five recitations a week, first semester; required in the junior year of the Engineering Courses; prerequisite, Mathematics 12. The application of analytic geometry and calculus to the solution of mechanical problems.

14. **Analytic Mechanics.**—Three recitations a week, second semester; required in the junior year of the Engineering Courses.

15. **General Astronomy.**—Three recitations a week, second semester; required in the junior or senior year of the General Science, Home Economics and Engineering Courses; prerequisite, Mathematics 6. The text will be covered and frequent use made of the instruments. Text: Young's Manual of Astronomy.

Department of Physics

PROFESSOR MATHEWS; MR. HOY.

From the fact that physics is one of the foundation sciences and that a knowledge of its laws is necessary to every student seeking a scientific training, the department has been well fitted with rooms and appliances to provide this training. Its lecture rooms are well provided with arm-rest opera chairs. The laboratories are well lighted and provided with non-vibratory piers. Water, gas and electricity are furnished for the recitation rooms and the dark room and laboratories.

This department is housed in the engineering and physics building. Its facilities and equipment for instruction are equal to those of any in the Northwest.

The laboratory equipment includes such expensive pieces as analytical balances, laboratory clock making electrical contact every second, cathetometer, spectroscopes, miscroscopes, photometers, stereopticon (arc light), standard cells, dynamos, electrometers, transformers, galvanometers, storage batteries, induction coils, ammeters, magnetometers, voltmeters, wattmeters, Wheatsone bridges, polariscope, quadrant electrometer, Kelvin's current balances, lathe and wireless telegraphy and X-ray apparatus.

The following subjects are offered in this department:

For Physics 1 and 2, see the preparatory department.

3. **General Physics.**—Three recitations and two laboratory periods a week, first semester; required in the sophomore year of

the Engineering Courses, elective in the sophomore, junior or senior year of various other courses. Young ladies following the General Science Course may elect Home Economics 4 and 7 instead of Physics 3; prerequisite, Physics 2 and Mathematics 9. Mechanics of solids and fluids, heat and sound with numerous examples. Exact measurements of mass, distance, time, calorimetry, nature and velocity of sound, etc.; study of electrical and magnetic fields.

4. **General Physics.**—Three recitations and two laboratory periods a week, second semester; required in the same courses as Physics 3; young ladies pursuing the General Science Course may elect Home Economics 3 instead of Physics 4; prerequisite, Physics 3. Electricity and its applications in the dynamo, motor and transformer, electric light and study of electrical and magnetic fields; refraction and reflection of light, interference and color. Laboratory work on topics mentioned.

5. **Advanced Physics.**—Four recitations and one laboratory period a week, first semester; elective in the junior or senior year; prerequisite, Mathematics 12 and Physics 4. Mechanics, kinematics, kinetics, mechanics of fluids and heat and its application; magnetism, static electricity, elctrolysis. Laboratory work and measurements covering topics mentioned. Texts: Nichols and Franklin, Vols. 1 and 2; Nichols' Laboratory Guide.

6. **Advanced Physics.**—Four recitations and one laboratory period a week, second semester; elective in junior or senior year. Induction currents, primary batteries, electric oscillations and waves, nature and motion of sound, physical theory of music, nature and propagation of light, refraction, reflection, interference, color and polarization; laboratory work. Texts: Nichols and Franklin, Vol. 3; Nichols' Laboratory Guide.

7. **Heat.**—Three recitations and one laboratory period a week, first semester; elective in the senior year; prerequisite, Physics 5. Sensible and latent heat, dynamical generation of heat, thermometry, calorimetry, specific heat, atomic and molecular heat capacities, evaporation, ebullition, vapor densities, cooling, diathermacy, conductivity, and dynamical equivalent of heat, laboratory work covering topics mentioned. Text: Preston's Theory of Heat; Maxwell's Heat.

8. **Light.**—Three recitations and one laboratory period a week, second semester; elective to the same classes as Physics 7, of which it is a continuation. Shadows and images, spectrum, velocity of light, color, phosphorescense, flourescence, diffraction, measuring waves, prisms and polarization; laboratory work. Text: Preston's Light.

9. **Physics of Heat.**—Two recitations a week, second semester; required of Freshmen in the course in Home Economics; prerequisite,

Mathematics 4. Theory of heat, thermometry, calorimetry, transference and conductance of heat, etc. Especial emphasis is laid on practical applications of heat.

Department of Botany and Plant Pathology

PROFESSOR MICHEL; MR. COE.

In the work of this department, the structure, physiology, classification and pathology of plants, and the fundamental problems of cell structure and function are studied, as well as the direct application of botanical science to pharmacy and agriculture. This work also helps to serve as a foundation for courses in forestry, plant breeding, plant pathology, etc.

The instruction aims primarily to develop the powers of accurate observation and the ability to draw correct conclusions.

Both the elementary and advanced laboratories are well equipped with microscopes and other necessary apparatus for carrying on advanced or original research work. The department also has fairly complete, convenient herbaria of the flowering plants and fungous flora of the northern United States.

2. **General Botany.**—Two lectures or recitations and three laboratory periods a week, first semester; required in the sophomore year of the Agricultural, Home Economics and Pharmacy Courses, elective in the sophomore, junior or senior year of various other courses; prerequisite, the work of the freshman year. The general principles of biology as illustrated by plants; a study of the life histories of types of plants, including their physiology and systematic relations.

3. **General Botany.**—Two lectures or recitations and three laboratory periods a week, second semester; required and elective in the same courses as Botany 2, of which it is a continuation; prerequisite, Botany 2.

4. **Plant Physiology.**—Two recitations and three laboratory periods a week, second semester; required in the junior year of the horticulture and plant pathology group, Agricultural Course; elective in junior or senior year; prerequisite, Botany 2 and 3.

The course deals with the most important life processes of the plant, including the properties of living matter; the general physiology of metabolism, growth, reproduction and irritability; the imitation and control of life processes.

5. **Plant Pathology.**—Two recitations and three laboratory periods a week, first semester; prerequisite, Botany 2 and 3. The first part of the term is devoted to the cause, nature and classification of the fungi, special emphasis being placed on the organisms of economic importance; the latter part of the course is devoted to the morphology of the diseases and their control, especially those found in South Dakota. In the laboratory work the student is, as far as possible, brought into direct contact with the diseases as found in the field.

6. **Advanced Plant Pathology.**—Elective in the junior or senior year. The course will be given to such students as have had Botany 5 or equivalent work. The laboratory hours and the recitations to be arranged with the instructor. The number of credits will depend upon the amount of time given to the work, which will consist of individual laboratory work and assigned readings.

7. **Classification of Pteridophytes, Gymnosperms and Angiosperms.**—Five recitations and laboratory periods a week, first semester; elective in the junior or senior year; prerequisite, Botany 2 and 3. The systematic arrangement and classification of the ferns and their allies, and especially of the higher flowering plants. The structure and relationship of weeds, grasses and grains, and other plants of economic importance will be emphasized in the course.

8-9. **Plant Histology.**—Five recitations and laboratory periods a week, first semester; elective in junior and senior year; prerequisite, Botany 2 and 3. The work will consist in the embedding, sectioning, and staining of tissues from the various groups of plants. Text-book: Chamberlain's Methods in Plant Histology.

10. **Heredity.**—Three recitations a week, second semester. The work is offered in connection with the Department of Horticulture, which will give practical work along the line of plant breeding. This course deals with the principles of variation and heredity, and their bearing upon the theory of organic evolution. The first part of the semester will be devoted to the general principles of heredity and their application to man, the latter half will deal with plant breeding and its practice in this state.

Texts: Walter's Genetics and Bailey's Plant Breeding.

11. **Pharmacognosy.**—Five recitations and laboratory periods a week, second semester; required in the first year of the Pharmacy Course; prerequisite, Botany 2. The sources, characteristics, histology, identification, etc., of the common drugs.

Entomology and Nature Study

PROFESSOR SEVERIN; MR. FOWLDS.

The work of this department is conducted by means of lectures, recitations, laboratory and field work. The student is thus afforded not only an opportunity to gain familiarity with the principles and theories discussed in the class room, but is also encouraged to put these theories to the test and verify the principles in the field. In the way of illustrative material, in addition to the general museum and the entomological collections, there are a large number of lantern slides, microscopic slides, and alcoholic and formalin preparations. The department is well provided with all the apparatus necessary for biological work.

For Entomology 1 and 2, see the preparatory department.

3-4. **General Entomology.**—One recitation and one laboratory period a week during first semester; one recitation and two laboratory periods during the second semester; required in the sophomore year of the Agricultural Course; elective in the junior or senior year of the General Science Course. A general course dealing with the anatomy, physiology, embryology, behavior, classification and life history of insects. The work of the second semester will be devoted in part to a discussion of some of the more important insect pests and methods of controlling them. This course is designed as an introduction to the practical work in economic entomology offered in courses 5 and 6 and to the systematic work offered in courses 7 and 8.

5-6. **Economic Entomology.**—One lecture period and one laboratory period a week throughout the year; elective in the junior or senior year; prerequisite, Entomology 3 and 4. A detailed study in the field and lecture room of the chief economic species of insects with a study of insecticides and spraying machinery. The student will be given an opportunity of preparing sprays and gases used in combatting insect pests and demonstrations will be offered in the practical application of the same.

7-8. **Systematic Entomology.**—Two or more laboratory periods a week; elective in the senior year. This course, while primarily entomological, is designed to be of general use to students of biology. It has for its object not only to get the student acquainted with the more common forms of insect life, but is also designed to give the student an idea of the aims and methods of classification. Each student will be required to do his own collecting and mounting of insects; the collections of the department will be available to the student at all times for reference work.

9. **Household Pests.**—One lecture and one laboratory period a week, second semester; elective in the senior year. The household insects and other animals that are of economic importance will be especially emphasized in this course, together with methods of extermination.

10. **Insects and Disease.**—Two lectures a week, first semester; elective in the junior or senior year. The greater share of the semester will be devoted to a discussion of the diseases which are disseminated through the insects and which affect man and domestic animals.

11. **Bird Study.**—One lecture and two laboratory periods or field excursions a week, second semester; elective in the junior or senior year. The lectures will deal with the various phases of bird life; the laboratory periods are designated to acquaint the student with the anatomy of various types of birds, while the field work will be devoted to studying the birds as they are found in the field, particularly with reference to their field identification, feeding and nesting habits. Each student should provide himself with a field or opera glass and a copy of Florence Merriam Bailey's Handbook of Birds of Western North America.

12. **Nature Study.**—Three recitations a week, first semester; elective in the junior or senior year. This course is intended primarily for those who expect to teach in the public or high schools. Its object will be to give the nature-point of view and the course will be a discussion of methods and materials as well as an elementary science treated from the biological side.

13. **Animal Behavior.**—Two recitations per week, first semester, elective in the junior or senior year. The evolution of animal behavior forms the principal theme of this course and is of much significance for the study and correct understanding of human psychology and sociology. This course will be useful to those engaged in educational work.

Department of Zoology

PROFESSOR MILLER.

Students of Agriculture and Domestic Science as well as those of General Science, should have a thorough foundation in the principles of Animal Biology, and this is what the department aims to accomplish. Besides this it trains the students in methods of zoological research and technique, and attempts to develop original and independent thought.

Students who contemplate the study of human or veterinary medicine will find that it is to their advantage to elect advanced work in the department. These professions are biological sciences and one should have a most thorough training to enter them. For those courses which are the so-called pure scientific courses in medicine credit is usually given and the student is privileged to elect other work in the professional school.

The department is well equipped with apparatus for the courses offered. Microscopes, type specimens, skeletons, for the general courses. Microtomes, ovens, glassware, stains and reagents for the advanced work furnish as excellent equipment as one would wish. There is a small but well chosen working library of about two hundred volumes.

For Zoology 1 and 2, see the preparatory department.

3-4. **General Zoology and Physiology.**—Two recitations and three laboratory periods a week, first and second semesters; required in the sophomore or junior year of the Agricultural Course, and in the junior year of the Home Economics Course; prerequisite, Art 1 and all the subjects below the sophomore year.

a. **General Zoology.**—A study of type forms of invertebrates and vertebrates, and the elements of history and embryology. Texts and references: Hertwig's Manual of Zoology; Parker and Haswell's Text-book of Zoology; Lange's Comparative Anatomy.

b. **Physiology.**—This subject continues throughout the last half of the second semester. Lectures, recitations, demonstrations, and required readings in advanced human physiology. Texts and references; Thornton's Human Physiology; American Text-book of Physiology; Landois' Human Physiology; Verworn's General Physiology.

Note—Students of Agriculture are required to take Veterinary 7 in place of Human Physiology during the last half of the second semester.

5-6. **Anatomical Methods.**—Three recitations and two laboratory periods a week, first and second semester; required in the second year of the two-year Pharmacy Course. This subject is intended to acquaint students preparing for the study of medicine with anatomical nomenclature, and methods of dissection. It includes the study of the anatomy of the cat, with special reference to Physiology.

Texts: Davidson's Mammalian Anatomy; Riegart and Jennings' Anatomy of the Cat; Morris' Human Anatomy.

7-8. **Histology.**—Five recitations and laboratory periods a week, first and second semesters; optional with Bacteriology in the junior year of the veterinary group, Agricultural Course; prerequisite, Zoology 3 or 5. The structure of the cell and the tissue elements, together with microtechnique during the first semester; vertebrate organology, the miscroscopic structure of vertebrates during the second semester. Texts and references: Bohm-Davidoff's Text-Book of Histology; Wilson's The Cell; Stohr's and Szymonowiczs-MacCullum's Text-Books of Histology.

9. **Vertebrate Embryology.**—Three or five hours a week, first semester. The course includes the study in the laboratory of the processes of fertilization, cleavage, principles of growth, formation of the germ layers and the foetal membranes, as well as the study of the development of some system of organs. For five hours credit the student must prepare a series of microscopical preparations of at least four stages of trout, chick, and pig embryos, and make a model of the development of some organ. Students electing this course must have completed Zoology 3 and 4 or 5 and 6, or equivalent.

10. **Bacteriology.**—Five hours credit, first semester; required in the junior year of the Domestic Science and in Dairy Group of Agricultural Course; elective in General Science. The course includes the study of morphology and biology of the bacteria and special reference is made to Public Health. The laboratory work consists of technique and the study of several of the common forms of bacteria. Text: Jordan.

11. **Applied Bacteriology.** Five hours credit; elective. Class conferences twice a week. Laboratory work on methods of air, water and soil determination. Text: Marshal's Microbiology.

12. **Comparative Anatomy.**—Three or five hours credit; second semester. A comparative study of the skeletal, digestive, vascular, nervous and unorgenital systems of the vertebrate. For five hours credit, the student must make a comparative study of the development of some system in three groups, and make models.

Department of Chemistry

PROFESSOR SHEPARD; ASSOCIATE PROFESSOR DUNBAR; MR. YOUNGBERG; MR. BINNEWIES; MR. SHEA.

This department is equipped with the latest and most approved appliances for instruction.

The student upon beginning the subject is assigned a desk in the main laboratory. This desk is supplied with a set of reagent bottles, gas and water fixtures. In addition to these a supply of all needful apparatus, such as test tubes, generating flasks and the like are furnished. The main laboratory, which is located on the first floor of the Chemistry and Pharmacy Building, accommodates eighty students, all working at the same time.

Upon completing the necessary elementary work the student now finds a quantitative laboratory at his disposal. This laboratory accommodates fifty students working together. It is supplied with all quantitative apparatus, such as precipitation flasks, desiccators, lamps and crucibles.

In connection with the quantitative laboratory is a balance room supplied with high-grade Troemner quantitative balances. The work is so planned that the student has laboratory work together with didactic instruction throughout the course.

The experiment station laboratories are also located at this College, and their costly and technical appliances and the practical work in constant progress there are within reach for instruction.

1. **Elementary Inorganic Chemistry.**—Five recitations and laboratory periods a week, first semester; required in the freshman year of all the courses leading to degrees; prerequisite, Physics 2. History of chemistry, elements, compounds, symbols, valence, atomic weights, chemical equations, oxygen, hydrogen, nitrogen, chlorine, bromine, fluorine, iodine, sulphur, phosphorus, silicon and their compounds. Bases, salts, acids, and alkalies. The metals and their compounds, separation of metals, groups of metals and uses of their compounds. Detection of the non-metallic elements and their compounds. Text: Shepard's Elements of Chemistry.

2. **Elementary Organic Chemistry.**—Five recitations and laboratory periods a week, second semester; required in the freshman year of all the courses leading to degrees; prerequisite, Chemistry 1. The principal classes of organic compounds, the characteristics and properties of each class and the uses of their various compounds. Detection of principal metals and the working of a list of unknowns; the detection of principal organic compounds. Text: Shepard's Elementary Organic Chemistry.

3. **Quantitative Chemistry.**—Five recitations and laboratory periods a week, first semester; required in the sophomore year of the Agricultural and Pharmacy Courses; elective in the sophomore,

junior and senior years; prerequisite, Chemistry 1 and 2. The apparatus and its uses. Explanations of methods of quantitative determinations and reports of students' analyses. The quantitative analyses of typical chemical compounds, e. g., calcite, magnesium sulphate, metallic ores, coal, etc. Text: Olson's Quantitative Chemistry.

4. **Chemistry and Physiology of Foods.**—Five recitations and laboratory periods a week, second semester; required in the sophomore year of the Home Economics Course and in the junior year of the veterinary group, Agricultural Course; elective in the junior or senior year; prerequisite, Chemistry 1, 2 and 3. Food nutrients, chemical characteristics and offices of same, physiology of same, metabolism, balanced rations, standard dietaries. Study of food adulterations. Experiments in digestion of foods, offices of digestive secretions. Detection of adulterants, coloring matter and preservatives.

5. **Agricultural and Sanitary Analysis.**—Five recitations and laboratory periods a week, first semester; elective in the junior or senior year; prerequisite, Chemistry 1, 2 and 3. Analysis of disinfectants, germicides, etc. Lectures, Official Methods American Association of Official Agricultural Chemists.

6. **Agricultural Chemistry.**—Three recitations a week, second semester; required in the junior year of the animal husbandry group, Agricultural Course; elective in the junior or senior year; prerequisite, Chemistry 1, 2 and 3. Text: Johnson's Agricultural Chemistry.

7. **Industrial Chemistry.**—Three recitations a week, first semester; elective in the junior or senior year; prerequisite, Chemistry 1, 2 and 3. Chemistry of manufacturing glass, paper, sugar, petroleum, explosives, acids, water, air, mortars, pigments, photography, alkalies and gases. Demonstrations of examples, including water pollution, purification, artificial illumination, petroleum, testing fermentation, air contamination, disinfection, ventilation, bleaches and dyeing. Text: Thorpe's Industrial Chemistry.

8. **Household Chemistry.**—Five recitation and laboratory periods a week, first semester; required in the sophomore year of the Home Economic Course; prerequisite, Chemistry 1 and 2. Students in four year Home Economics Course intending to specialize in Chemistry should take Chemistry 3 instead of Chemistry 8. This course includes the chemistry of cooking, baking, fermentation, cleansing agents, water, soaps, inks, stains, disinfectants, preservatives, etc., as applied to good housekeeping in every day life. Lectures, notes and references.

9. **Organic Chemistry.**—Three recitation and two laboratory periods a week, first semester; elective in the junior or senior year.

The Aliphatic compounds. Chemical theory and principal compounds of the paraffine series. The preparation of typical members. Typical analytical methods. Text: Perkins and Kipping with explanatory lectures.

10. **Organic Chemistry.**—Three recitation and two laboratory periods a week, second semester; a continuation of Chemistry 9. Theory, structure, preparation and analysis of the Benzenes, Naphthalens, Antracenes, Pyridines, Alkaloids, Amino Acids, Terpenes, Dyes, etc.

11. **Organic Cremistry.**—Three recitations and two laboratory periods a week, second semester; required in the sophomore year of the Agricultural Courses; prerequisite, Chemistry 1, 2 and 3. An elementary course in Organic Chemistry. Includes the general theories, and typpical reactions of the aliphatic and aromatic compounds. Preparatory to the practical application of this knowledge in advanced Agricultural work. Text-book: Remsen's Organic Chemistry.

12. **Elementary Chemistry as Applied to the Home and Farm.**—Five months course, third year students in School of Agriculture. Not open to regular students in four year courses. A brief study of the principal elements concerned in Agriculture. Brief discussions of germination, fertilizers, insecticides, disinfectants, cleansing agents, paints, preservatives. Feeds, rations, etc. Two recitations and two laboratory periods per week. Text: Snyder's Chemistry of Plant and Animal life, lectures and notes.

Department of Pharmacy

PROFESSOR WHITEHEAD.

PURPOSE.

The purpose of this department is to train young men and women in the science of pharmacy. The passage of the Food and Drug Act by Congress, and similar legislation by our own state has placed very great importance on pharmaceutical education. Under the present commercial conditions it is nearly impossible for one to prepare himself to meet the requirements of these laws except by taking a thorough college course.

The demand for educated pharmacists is becoming greater every day. In fact, even at present, some of the states will not allow one to take the examination for registration unless he is a graduate of a reputable school. This department meets both the preparatory and professional requirements of the New York Educational Department with which it is registered in full. It is also a member of the American Conference of Pharmaceutical Faculties.

Graduates from the Department of Pharmacy in the State College have been uniformly successful in passing the State Board examinations, only two having failed to meet the requirements of the Board during the past sixteen years.

ENTRANCE REQUIREMENTS.

Among the regulations of the South Dakota State Board of Pharmacy is the following:

"Hereafter during the year 1906, all applicants appearing for registration by examination, must present with their application an affidavit showing that they have completed a course of study (or its equivalent) of one year high school work. In 1907, two years; in 1908, three years; and in 1909 the presentation of a high school diploma will be required. These requirements were recommended by the Association in annual meeting at Canton in 1903. It is therefore expedient that all proprietors doing a drug business in this state acquaint their clerks and apprentices with the above rule."

In order to harmonize our work with this regulation we require the completion of four years of high school work or its equivalent. While this is a much higher requirement than most schools demand, we feel that the results have justified our judgment, for at present there are but two of our graduates who have taken the state examination who are not registered.

This line of work offers many inducements to young men. The requests of the druggists of the state for our graduates are far in excess of the supply and the pure food and drug laws have opened up a new field for young men who are competent drug and food assayists.

The students finishing the two-year course in Pharmacy may receive the degree of Pharmacy Graduate (Ph. G.). This is the only course of the kind offered in the state and receives the hearty commendation of the State Board of Pharmacy. The two years of pharmacy work may all be applied towards the degree of Bachelor of Science. For the additional subjects required, see Pharmacy Schedule. This longer course is recommended to those who intend to take up the study of medicine or dentistry, or who wish to prepare for teaching the sciences in the high schools of the state.

The fees for work in this department are the same as for other college work, i. e., six dollars tuition and two dollars for each laboratory period per semester.

With the exception of 10 the following subjects are all required for both the degree of Pharmacy Graduate and the degree of Bachelor of Science in Pharmacy.

1. **Pharmacy Latin.**—Five recitations a week, first semester, first year. The subject is taught with special reference to its application in pharmacy. The vocabulary employed is strictly pharmaceutical. Text: Crothers and Biers, Elements of Pharmacy Latin.

2. **Materia Medica.**—Five recitations a week, first semester; first year. Medicinal properties, doses and poisonous effects of the various medicines, together with the antidotes which the pharmacist may be required to administer in an emergency, will receive full and careful treatment. Text: Potter's Materia Medica, Pharmacy and Therapeutics.

3. **Materia Medica.**—Five recitations a week, second semester, second year. Continuation of Pharmacy 2.

4. **Pharmacy.**—Five recitations a week, first semester, second year; prerequisite, Chemistry 2. Forms and uses of pharmaceutical apparatus, weighing by apothecary and metric systems, specific gravity of solids and liquids, heating apparatus, determination of boiling and melting points, distillation, comminution, solution, precipitation, filtration, crystallization, percolation, and stndy of official medicines, waters, syrups, mucilages, mixtures, spirits, elixirs, liniments, infusions, tinctures, fluid extracts, oleoresins and extracts. Text: Remington's Practice of Pharmacy.

5. **Pharmacy Laboratory.**—Three laboratory periods a week, first semester, second year. Preparation of waters, syrups, mucilages, etc., mentioned in Pharmacy 4, must be taken up in connection with it. Text: Remington's Practice of Pharmacy.

6. Pharmaceutical Problems.—Two recitations a week, first semester, second year. Relationship of metric, apothecary, and imperial systems of weights and measures, specific gravity, specific volume percentage problems, concentration and dilution, alligation and chemical problems. Text: Olberg's Pharmaceutical and Chemical Problems.

7. **Pharmacy.**—Five recitations a week, second semester, second year; prerequisite, Pharmacy 4 and 5. Official inorganic salts

and their compounds, solutions, emulsions, powders, pills, ointments, and plasters; reading prescriptions. Texts: Remington's Practice of Pharmacy, Ruddiman's Incompatibilities in Prescriptions.

8. **Pharmacy Laboratory.**—Five laboratory periods a week, second semester, second year; prerequisite, Pharmacy 5 and 6. Compounding of prescriptions, making of inorganic salts, solutions, emulsions, powders, pills; reading and compounding prescriptions. Must be taken same semester as Pharmacy 7. Texts: Remington's Practice of Pharmacy, Ruddiman's Incompatibilities in Prescriptions. Olberg's 1,500 Prescriptions, National Formulary.

9. **Volumetric Analysis and Drug Assaying.**—Five recitations and laboratory periods a week, second semester, second year; also elective in the sophomore year of the General Science Course; prerequisite, Chemistry 3. There are at present in the U. S. Pharmacopoeia 149 volumetric and 35 gravimetric assays. In this subject we endeavor to give enough of this work to enable a student to make any of these assays in an intelligent and accurate manner. The students are required to make their own volumetric and indicator solutions. A short course in urine analysis is given in connection with this work. Texts: U. S. Pharmacopoeia, Schimpf's Volumetric Analysis, Lyons' Pharmaceutical Assaying; lecture notes by the teacher.

10. **Chemical Toxicology.**—Five laboratory periods a week, first semester; elective in the junioir or senior years of the Pharmacy Course; prerequisite, Pharmacy 3 and 9. Separation and identification of poisons. Texts: Reeses' Medical Jurisprudence and Toxicology, Authenrieth's Detection of Poisons, Their Effects and Detection, Blyth's Poisons, Their Effects and Detection.

Department of Music

PROFESSOR HEDGE; ASSISTANT PROFESSOR PETERSON; ASSISTANT PROFESSOR CHRISTENSEN; MISS ALLEN; MISS FERGUSON.

PURPOSE OF THE DEPARTMENT.

The purpose of this department is to give the very best musical training possible at a minimum cost, without sacrificing the high standards of the institution.

It is generally recognized that few branches of study require greater and broader training of the mind than does the study of music, and not only cultivation of the mind, but of the emotions as well. The emotional is a phase too often neglected in education, although it has so important a part in life. In music one must learn to control—to keep in the background—one's own emotions, in order to give true expression to the thoughts of the master minds which have so wonderfully woven the beautiful harmonies.

A knowledge of music also serves to give proper balance to an education, the aesthetic side of which is too often neglected.

Our course is arranged with a view to supplying the needs more especially of those who wish to broaden themselves and to make it a part of their general education.

ADVANTAGES.

Opportunities are given for the hearing of the best music during the school year, which is a most important adjunct to proper musical education. These occasions include our high-grade faculty concerts, and an Artists' course which consists of recitals by some of the best musicians of the country. It is also planned to bring one of the Symphony Orchestras here for a concert each season.

During the past school year the following concerts, oratorios, and recitals have been given under the direct supervision of the Department of Music:—Faculty Recital, Oct. 7th; The "Opera Faust" by Choral Union, Oct. 24th; New York Oratorio Quartet, Oct. 26th; The Cantata "The Fatherhood of God" by Chapel Choir, Nov. 4th, repeated Nov. 9th; Violin Recital, by William MacPhail of Minneapolis, Nov. 20th; Handel's "Messiah" by Choral Union, Dec. 12th; College Symphony Orchestra Concert, Jan. 13th, repeated Jan. 18th; Violin Recital, by Carl Christensen, Feb. 22nd; The Cantata "The Holy City" by Chapel Choir, March 3rd, repeated March 8th; Piano Recital, by Myrtle Elvyn, of Chicago, March 17th; "Hiawatha Music" Choral Union, March 24th; Annual Band Concert, April 3rd; "The Crucifixion" Good Friday Night; Chapel Choir, April 10th; Duet Recital, by Faculty and Advanced Students, April 24th; Song Recital by Grant Hadley of Chicago, May 1st; Annual Faculty Recital, June 6th.

The following are the artists who have appeared in concerts or recitals whose names are not mentioned above: Mr. Harry Phillips, baritone, of Minneapolis; Agnes Kimball, Elsie Baker, Reed Miller, Frederick Wheeler, all of New York; Mr.

S. Howard Brown, baritone, of Minneapolis; Miss Adelaide Pierce, contralto, of St. Paul; Mr. C. B. Clark, baritone, of Chicago; Mr. W. A. Thieck, trumpet soloist, of Minneapolis Symphony Orchestra.

In addition to these advantages, Prof. Hedge will train and direct, free to all College students and to outside singers, a choral union, a chapel choir of twenty-four picked voices, a men's glee club, and a women's glee club.

One credit a year will be given to Juniors and Seniors for choral singing in either Choral Union or Chapel Choir, providing the work is carried the full school year.

Professor Christensen will conduct the College bands and orchestra, both of which have already made an excellent reputation throughout this part of the country.

The Men's Glee Club and Orchestra have made tours during the last three years through different parts of the state and have met with great enthusiasm and success.

Recitals are also required of all students at various times during the year and attendance is obligatory upon every student in this department.

CONDITIONS FOR ENTRANCE.

The candidate for admission to the College must be at least fourteen years of age and of good moral character, and must have completed the work of the public schools as far as the ninth grade.

Students of music who have not completed the requirements for entrance to the freshman class will be required to take at the same time two text book subjects of the preparatory course.

STUDENTS' CONVOCATION.

The Music Students Convocation meets once each month at which programs are given by students or faculty. As this is part of the school work each student of music is required to be present.

COURSES.

Three courses are available for students of this department:

1. Preparatory.
2. Academic.
3. Collegiate.

The Preparatory Course is open to all beginners and consists of rudiments, tone production, formation of correct habits of thought and execution, etc.

The Academic Course is for those who do not desire to complete the full course, but only to become fairly proficient as performers and to secure a general knowledge of the fundamental principles of the art. At the completion of this course, the student is awarded a certificate of proficiency or merit.

The Collegiate Course leads to graduation and consists of three years' work. To complete this course, the student must have secured a thorough knowledge of harmony, theory and history as outlined in these respective courses. Upon its completion, the student will be given a diploma in music provided the entrance requirements to the freshman class have been completed.

VOICE.

Prof. Hedge, Misses Allen, Ferguson, and Noggle.

The method used is the correct placing of the voice so that the pupil can produce with equal ease and firmness and with an even quality, all tones from the lowest to the highest. The mechanism of the voice is explained as far as necessary.

In correct breathing, correct position in singing and chest development lies the foundation of voice building.

The course of instruction is based on the Italian School of training the voice. The fundamental principle of the old Italian teachers was to poise the voice. From this comes the even scale, the range, the power to sustain, and the agility, all of which combined form the "bel canto" or beautiful singing.

Special attention is paid to the needs of each individual, with exercises and studies carefully selected according to the requirements of each voice.

Study will be made of the interpretation of songs and ballads chosen from the best of the German, Italian, French, English and American schools, with strict attention to phrasing, enunciation and rhythm.

Voice Outline.

First Year.	Second Year.	Third Year.
Vocal Culture.	Vocal Culture.	Vocal Culture.
Piano.	Piano.	Song Literature.
Sight Reading.	Harmony.	Harmony.
Musical History.	Languages.	Oratorio, Opera-Airs.
Languages.	Ear Training.	Hymnology and Church Music.
Songs.	Songs.	Theory.

First Grade.

The formation of tone; elementary exercises for the development of the voice and art of respiration; Seiber's thirty-six eight measure vocalises; exercises in articulation and art of phrasing; easy and pleasing songs in English.

Second Grade.

Exercises in scales, precision and flexibility; studies by Lutgen, Concone, Tosti, Vacci; songs from German and English composers.

Third Grade.

Exercises in scales, precision and flexibility continued; advanced vocalization; songs by Schubert, Schumann, Franz, Brahms, and arias and duets from operas.

Fourth Grade.

Exercises continued as above with studies in bravoura singing. Exercises and solfeggios used, classified according to difficulty, are those of Concone, Marchesi, Lamberti and Brambilla. Recitatives and arias from the standard oratorios and operas.

For the Diploma in vocal music, the pupil must complete the courses in harmony, theory and history of music, ear training and sight reading, and must also complete the work of the academic course in instrumental music.

PIANO.

MR. PETERSON, MISSES ALLEN AND FERGUSON.

The study of piano is conducted with a view to balancing more perfectly the training of the mind and the cultivation of technical power. Too often stress is placed upon one or the Mozart; compositions of Mendelssohn, Schubert, Chopin, Schumann, Grieg, MacDowell, etc.

other, more frequently the latter, to an extreme. Technic is but the means to an end: i. e., the correct interpretation of the masters, and should be so considered.

Special attention is directed from the very beginning to the student's habit of thinking. This is done largely through the method of harmonic analyses and memorizing in an orderly and concentrative manner.

The musical side of the student's personality is brought into action through intelligent and artistic interpretation and its development is materially assisted by his having the opportunity to hear good music, artistically rendered as often as possible.

In technical development, special work is given for the acquisition of finger strength and independence, a correct position of the hand and purity of tone. Since it is now generally believed that the purest and sweetest tones are secured from direct finger action, this is much emphasized throughout the course.

Studies from Czerny, Gurlitt, MacDougall, Bach and other direct finger action, this is much emphasized throughout the course.

These fundamental ideas are associated with the principle, the understanding of which is so necessary to the successful teacher, that effort should continually be made to render the study of the piano less irksome and as intensely interesting to the student as it can be made.

Piano Outline.

First Year.	Second Year.	Third Year.
Piano.	Piano.	Piano.
Harmony.	Harmony.	Harmony.
Musical History.	Violin or Voice.	Violin or Voice.
Musical Literature and Analysis.	Ear Training.	Ensemble Playing.
	Theory.	

Preparatory Course.

Studies from Czerny, Gurlitt, Mac Dougall, Bach and other composers; sonatinas from Clementi, Kuhlau, Gurlitt, etc.; the easier sonatas of Haydn and Mozart, and the less difficult composition of Schumann, Grieg, Mac Dowell, Schubert, Chopin and others.

Collegiate Course.

First Year.—Etudes of Heller, Czerny, Foote, Loeschhorn; selections from the Bach suites and sonatas of Beethoven, Haydn and

Second Year.—Studies from Bach, (inventions and suites), Heller, Czerny, and others; sonatas of Mozart and Beethoven; solos selected from Weber, Chopin, Mendelssohn, Schumann, Grieg, MacDowell, Liszt and others; also some of the easier concertos of Mendelssohn, Reinecke, Weber, Mozart, etc.

(For examination last year, students played a movement from Weber's Concerto in C Major, a Bach invention or prelude and an expression piece selected from some of the composers of the Romantic School.)

Third Year.—Studies from Bach (Well Tempered Clavichord), Chopin, Liszt, Foote; sonatas of Schubert, Beethoven, Grieg, Weber, Chopin; solo works of Mendelssohn, Weber, Schumann, Liszt, Rubinstein, Grieg, MacDowell and the modern French, Russian and American composers; concertos of Beethoven, Rubinstein, Chopin, Schumann, Saint Saens, etc.

VIOLIN.

MR. CHRISTENSEN; MISS SMITH.

Position, tone production on open strings, most important rudiments of musical theory in general, Hohmann's Violin School, Book 1; duets by Gebauer and Mazas; miscellaneous solos with piano accompaniment.

COLLEGIATE COURSE.

First Year.—Two octave scales in all major and minor keys; Sevcik, Opus 1, Book 1, Violin Technic; study of the positions, Hohmann, Book IV; studies by Wohlfart, Opus 45, Books I and II; miscellaneous solos with piano accompaniment.

Second Year.—Three octave scales in all major and minor keys; Sevcik, Opus 7, Violin Technic, Books I and II; Sevcik's "Four Thousand Bowings"; Kayser's Etudes, Opus 20, Books I and II; Mazas, Opus 36, Book 1, Violin Studies; solos with piano accompaniment by DeBeriot, Wieniawski, Mendelssohn, etc.

Third Year.—Sevcik, Opus 7, Books I and II; Sevcik's "Four Thousand Bowings"; Schradieck's Technical Studies; Mazas Studies, Opus 36, Book II; etudes by Dont and Kreutzer; solos by Wieniawski, Vieuxtemps, Mendelssohn, Bruch, Godard, etc.; concertos by Viotti, De Beriot, etc.

VIOLIN OR VIOLONCELLO OUTLINE.

First Year.	Second Year.	Third Year.
Violin or Cello.	Violin or Cello.	Violin or Cello.
Harmony.	Harmony.	Harmony.
Piano.	Piano.	Ensemble Playing.
Musical History.	Musical Literature and Analysis	
	Ear Training.	
	Theory.	

HARMONY.

MR. PETERSON.

In the study of harmony, the older ideas of harmonizing a given melody or figured bass are discarded as far as possible. The student is taught from the beginning to write his own melodies for harmonization, thus, while stimulating his originality and inventive ability, taking from the study of harmony that mechanical and superfluous aspect so often too apparent to the pupil, and firmly establishing the proper relation of the study of music.

In the first year (collegiate) the student receives ear training and the rudiments of harmony, including intervals, scales and chord formation, chords and their tonal relations, melody writing and simple harmonization.

In the second year, melody writing is continued, harmonization a little further developed, new chords introduced, etc.

The third year leads to altered chords and modulation, elaboration of melody, imitation, counterpoint, canon, fuges and composition in the easier forms.

This study is generally conducted in classes of four or five, but those who desire quicker advance may secure private lessons at special rates, according to the statement upon another page.

HISTORY.

The classes in the study of musical history are conducted by Miss Allen. This clearly follows the development of music and musical instruments from the earliest to the present time. This is a subject upon which every musical student should be well grounded, and some knowledge of it is essential in the general education equipment of everyone who is at all musically inclined. An examination upon this subject must be passed by all students before receiving certificates or diplomas.

THEORY.

The study of theory is conducted by Mr. Peterson. This study includes the principles of acoustics and formation of sound, together with a study of analysis of musical forms; simple songs, forms, arias, ballades, and other vocal forms;

the more simple forms of dance music, leading to the higher forms of the sonatina and sonata, canon, fugue, etc.

This study is also required of all students receiving certificates or diplomas.

EAR TRAINING.

A special class in ear training and sight reading is to be included in the course for the coming year, to be conducted by a capable and experienced teacher. This study will be required of all music students.

EXPENSES OF STUDENTS.

The tuition for regular work throughout the year is listed in the table of fees below and depends upon the instructor, subjects studied, etc.

The terms and prices to the students of the five months' course in Agriculture will be the same as that for the regular semester, as given below.

FEES.

The following fees will be charged a semester for instruction:

Prof. Hedge.

Voice—

Two half hour lessons per week, major work	$32.00
One half hour lesson per week, minor work	18.00

Mr. Christensen.

Violin, Viola, Cello and Band Instruments—

Two half hour lessons per week, major work	$28.00
One half hour lesson per week, minor work	17.00

Mr. Peterson.

Piano—

Two half hour lessons per week, major work	$28.00
One half hour lesson per week, minor work	17.00

Miss Allen.

Voice and Piano—

Two half hour lessons per week, major work	$26.00
One half hour lesson per week, minor work	15.00

Miss Ferguson.

Voice and Piano—

Two half hour lessons per week, major work	$26.00
One half hour lesson per week, minor work	15.00

Harmony, history, theory, ear training, sigh reading, etc., in classes, free to all students in voice, piano or violin.

Private lessons in harmony may be obtained for the additional fee of $10.00 a semester. Students desiring private lessons in harmony and are studying in more than one department, for example, both voice and piano departments, will be given a discount of $5.00 a semester to cover the free theoretical work to which they are entitled in each of these departments.

Practice pianos may be used at the following rates a semester:
One hour a day, $4.00.
Two hours a day, $7.00.
Three hours a day, $9.50.
Four hours a day, $12.00.

Department of Art

MISS CALDWELL; MISS GODDARD.

The aim in arranging the subjects in this department has been to offer such work as will correlate with other college courses in becoming a means to a general education.

The object of the work is to cultivate an appreciation of beauty and to develop technical skill.

The department is equipped with a good collection of casts and photographs and with such tools as are necessary for class work.

Two courses of study are offered, the preliminary work in each being the same. One course includes the study of form and color, and the other the principles of design and their application in various crafts. A diploma is given students who satisfactorily complete either course. The time necessary to secure a diploma depends on the ability of the student, three years being an average length of time, although the work may be extended over a longer period and carried with a regular college course. The course in academic drawing and painting includes drawing from cast and still life, painting, and art history, (courses 6, 7, 8, 9, 10, 11, 12, 13). The course in applied design includes a year of drawing, two years of design and handicraft, with a year of art history, (courses 4, 5, 6, 7, 8, 9).

Any advanced student wishing to study the technique of pen and ink will be given individual instruction in that subject.

For Art 1 and 2 see the preparatory department.

3. **Theory of Design.**—Two recitations a week, second semester; required in the sophomore year of the Home Economics Course. This subject treats of the principles of design and their practical application in the home.

4-5. **Applied Design.**—Two laboratory periods a week, first and second semesters; required in the senior year of the Home Economics Course; elective in the senior year of the General Science Course; prerequisite, Art 1. One period a week for lecture and criticism of original designs and three periods for the working out of these designs in the various crafts of basketry, stenciling, weaving, leather, woodcarving, metal work and jewelry. Students wishing a diploma are required to continue the study of design for a second year and study the principles of the crafts they have not included in their first year's study of applied design.

6. **Art History.**—Two recitations a week, first semester; required in the senior year of the Home Economics Course, elective in the senior year of the General Science Course. This course aims to acquaint the student with the styles of historic architecture and with prominent buildings illustrative of each style.

7. **Art History.**—Two recitations a week, second semester; required in the senior year of the Home Economics Course, elective in the senior year of the General Science Course. A study of great schools of painting. Reference books in the general library and a collection of photographs in the department furnish material for this course.

8. **Charcoal Drawing.**—Five hours a week, first semester; elective to students pursuing special work in art. Drawing from simple casts in outline and in light and shade.

9-10. **Charcoal Drawing.**—Five hours a week, first and second semesters; elective to students pursuing special work in art. Drawing of heads and figures in full light and shade from casts, sketching from pose; prerequisite, Art 8.

11. **Study of Values.**—Five hours a week, first semester; elective to students pursuing special work in art. Value studies in charcoal from still life as preparatory work for painting; prerequisite, Art 1-2.

12-13. **Painting.**—Two laboratory periods a week, first and second semesters; elective to students pursuing special work in art; prerequisite, Art 8. Study of color and technic of painting in oil, pastel, and water color from still life and flowers.

14. **Drawing**—Required in the freshman year of the Home Economics Course. This course will include object and nature

drawing with pencil and pen and ink, for the study of proportion, perspective, light and shade, and pencil and pen technic, thus enabling the student to express the appearance of objects.

15. **Theory of Design and Handicraft.**—Basketry and Stenciling. Students are required to work out their own designs for each problem.

15a. **Theory of Design and Handicraft.**—Leather Tooling and weaving. Planning of designs and color harmonies for all problems.

16. **Design for Needlework.**—One hour a week, first semester. This work is offered in connection with the course in needle craft in the Home Economics Department.

Department of Military Science and Tactics

LIEUTENANT FOLEY, Commandant.

The work of this department is conducted in accordance with War Department orders promulgated pursuant to Acts of Congress.

Instruction in military science and tactics in educational institutions throughout the United States forms a part of the present general system of military training; its function is to impart to the college youth of the land knowledge of the elements of military science and the duties of the soldier in the garrison and in the field in order that the people may receive the benefit of more efficient service when final resort to arms to sustain the national honor or to enforce the laws shall become necessary.

Direct benefits of lasting value are received by the individual cadet which contribute to strengthen his physique and mentality, the better to fit him for the duties of life.

The instruction is both practical and theoretical, as follows:

PRACTICAL.

Infantry drill regulations; firing regulations for small arms; field service regulations; manual of guard duty. Three hours a week; required of all able bodied male students of the sophomore, freshman and preparatory classes, the school of agriculture, and special students; optional for seniors and juniors, who may elect further work in the department subject to approval; they may also be required to turn out on special occasions by direction of the commandant upon approval of the president.

THEORETICAL—REQUIRED.

Infantry drill regulations; firing regulations for small arms; field service regulations; manual of guard duty; army regulations. This course is progressive and required for commissioned and non-commissioned officers, one hour a week, one semester, or equivalent. Lectures by the Commandant on various military subjects will be delivered monthly before all cadets. Elements of Military Science; additional requirement for sophomores, one hour a week, second semester.

THEORETICAL—ELECTIVE.

Field Service Regulations and Military Engineering. Junior year, first semester, one hour a week.

Applied Tactics. Junior year, second semester, one hour a week.

Military Law. Senior year, first semester, one hour a week.

International Law. Senior year, second semester, one hour a week.

Further advanced work may be elected with appropriate credit, subject to the approval of the faculty.

All students herein referred to constitute the corps of cadets and are organized for the purpose of drill and administration as an infantry battalion, with a band to which qualified cadets are especially assigned.

The appointment and promotion of commissioned and non-commissioned officers are made in accordance with merit by the commandant subject to the approval of the president.

The College is provided by the U. S. government with the equipment necessary to conduct the department. Each cadet must provide himself with the prescribed uniform. The complete uniform will be worn at all drills and other exercises.

The following is an extract from war department orders:

"Ppon the graduation of every class, the professor of military science and tactics, after consultation with the president of the college * * *, will decide upon and report to the Adjutant General of the Army the names of such students belonging to the class as have shown special aptitude for military service, and will furnish a copy of his report to the Adjutant General of the state for his information."

Department of Commerce

PROFESSOR STARRING; ASSISTANT PROFESSOR SCHLATTER; MISS BASOM.

The department of commerce offers two courses of study:

(1). The Secretarial Course for students who have completed a high school course of three or more years. The work of the course may be counted towards the completion of the entrance requirements to the freshman year of the college, under certain restrictions imposed by the committee on entrance requirements—and also depending upon the additional work that has been done by the student. However, it frequently happens that such students have no intention of pursuing a regular collegiate course of study, but are obliged by force of circumstances to take a one-year's business course preparatory to office work. These students welcome the opportunity of securing a commercial education in a college atmosphere.

(2). The regular commercial course combines preparatory subjects with business branches and covers a period of four years. This course is valuable to the student who desires to obtain a broad general knowledge with his commercial training. The student also gets regular credit for the work toward admission to the freshman year of college, in case he wishes to continue his education. Many students, in fact, take the business subjects in order to learn some method of earning their future college expenses.

All stenographic courses are so arranged that students are given considerable actual office practice during the second semester just before completing the course. The idea is to train the student for immediate service in office work, and to minimize the customary bungling of the ''beginner.''

Positions. The demand for our graduates far exceeds the supply. Hardly a week passes that we are not asked to recommend some young man or woman for office work. There are usually three to five positions for every student.

Brookings is now a regular point for the holding of Civil Service examinations. Students who desire to take the examinations are encouraged to do so and are given all the preparation possible.

Those who have not completed the equivalent of at least three years of a high school course should follow the course in commercial science as outlined in the schedule of the preparatory department. Shorthand students are required to have had a preliminary English training of about three years.

Under certain restrictions, collegiate students are permitted to take electives in Business Law, and Theory of Money and Banking.

THE SECRETARIAL COURSE.

FIRST SEMESTER.

Business Law.—Three recitations a week. This subject includes practical analysis of contracts; negotiable paper; agency; partnership and corporations; personal and real property; surety, guaranty and insurance; the management of decedents' estates. Lectures and text-book work supplemented with the study of actual cases. Special lectures by local and visiting attorneys.

English.—Three recitations a week. Either freshman rhetoric or the English of the fourth preparatory year. This is to give practice in composition, supplemented with reading. This course is intended to develop the power of writing correct English.

Shorthand.—Five recitations a week. Theory, drills to develop ability in writing sounds. Study of word-signs; simple dictation. Gregg system.

Typewriting.—One hour a day. Drills for learning key-board by touch method; business and legal forms; manifolding and letter press; mimeographing; care of machine. Each student will be made familiar with standard typewriters.

Accounting.—Three double periods a week. A brief course to acquaint the student with the elements of business bookkeeping, the knowledge of which is essential, whether actually used by the student or not.

SECOND SEMESTER.

Money and Banking.—Three recitations a week. A theoretical and practical study of money and credit funds; their instruments of transfer; the commercial bank; savings bank; trust company; organization and operation of various banking institutions; legal regulations. A practical course not usually given in commercial schools.

English.—Three recitations a week. A continuation of the first semester's course. Too thorough a study of English cannot be made by the student who expects to become a first-class secretary.

Shorthand.—Five recitation periods a week. A practical continuation of the work of the first semester. Dictation, including all forms of correspondence and legal matter; polite letter writing; terse business diction; special practice anticipating certain office work or civil service.

Typewriting.—Five to ten hours a week. To be taken in connection with the Shorthand.

Secretary Practice.—Five laboratory periods a week. Afternoon practice with college officers or business firms in town. Each student will be carefully ''checked up'' on this work. The practice will be of great value in giving preliminary experience, and will remove the fear of entering the first regular office work upon graduation.

THE REGULAR COMMERCIAL COURSE.

The following subjects are offered in the regular four-year course in commercial science. For complete schedule see outline of the preparatory course.

1. **Commercial Correspondence.**—Three periods a week, first semester. A practical course designed to teach the student to write creditable and up-to-date business letters in natural and conversational English. Particular attention will be paid to penmanship.

2. **Commerce and Industry.**—Three period per week, second semester. Continuation of work of first semester; study of industry and commerce, local, national, and international. This course will be illustrated by the use of a commercial museum now being collected. The student will be required to learn the use of government reports and other sources of information in collecting data.

3. **Bookkeeping.**—Three laboratory periods per week, first semester. Single and double entry studied as in actual business; the aim being to acquaint the student with the fundamental principles of bookkeeping. Students who are deficient in penmanship will be required to take course 1.

4. **Bookkeeping.**—Three laboratory periods per week, second semester. Advanced bookkeeping, affording practice with the more complex books and forms used in modern offices. Special attention given to the accounting books of commission, general merchandise, wholesale and retail business, manufacturing and banking. By the use of separate price lists, each student will be obliged to do independent study and thinking. In this course the student becomes familiar with the uses of various kinds of commercial paper and office practice.

5. **Shorthand.**—Five recitations per week, first semester. In this course the student masters the theory of shorthand; dictation of simple business letters to develop facility in handling writing materials; drills on principles, characters and word-signs. Gregg shorthand is taught. Nothing but the very best work is accepted, for it is time wasted to prepare second and third rate stenographers for office work.

6-8. **Typewriting.**—Five periods a week, first semester. Five to ten periods a week, second semester. Graded exercises to learn machine by touch method; care of machine; correspondence and legal forms; manifolding and mimeographing; billing and tabulating. The work of the second semester will be based upon shorthand dictation. The student will be required to develop the ability to read and transcribe his notes readily and accurately. Each student is to collect a port-folio of his typewritten work which has been accepted by the instructor of typewriting.

7. **Shorthand.**—Five recitations per week, second semester. Dictation of business letters and general matter to develop speed; legal forms; civil service matter. The student is not allowed to develop speed carelessly, at the expense of legibility. With this course, the student makes a study of commercial correspondence and the most approved forms in letter composition. All dictated matter is transscribed on the typewriter.

9. **Business Law.**—Three recitations a week, first semester. Designed to acquaint the student with the fundamental principles of business law, supplemented with a study of actual cases illustrative of these principles. A topical analysis of contracts; negotiable paper; agency; partnership; corporations; guaranty; sale of chattels; stoppage in transit; payment; law of tender; liens; bailment; insurance; probate matters and real estate conveyances.

10. **Money and Banking.**—Three hours per week, second semester. A theoretical and practical study of the history of money; nature and uses of money; classification of banks; bank circulation; deposits and loans; officers of banks; collections; reserves; legal regulations; clearing houses; loan and trust companies. Open to seniors, secretarial, and college students only.

Preparatory Department

PROFESSOR FORSEE; MISS YOUNG.

For the benefit of students who do not have high school advantages a preparatory department is maintained. This course, whose work extends over four years, contains certain required subjects that are considered necessary to a liberal education. The remaining work may be chosen from a large list of elective subjects. The student who pursues the course may thus secure a good preparation for entering upon more advanced work or training for practical life.

The course conforms to the admission requirements as far as the conditions in the College permit. Students will be admitted to the college courses upon the completion of the required subjects and an additional amount of work chosen from the elective subjects to make fifteen units, a unit being five hours a week throughout the year. This requires about three hours of elective work a week in addition to the required subjects during the four years.

PREPARATORY COURSE.

FIRST YEAR.

First Semester—

English Composition, a 5	English	1
Arithmetic (Including Metric System), a 5	Mathematics	1
Civics, a 5	History	2
Business Correspondence and Penmanship, a 3	Commerce	1
or		
Freehand Drawing, b 3	Art	1
Military Tactics, 3		
Elective, a & b 3		

Second Semester—

English Composition, a 5	English	2
Beg. Algebra, a 5	Mathematics	2
Physiography, a 4	Physiography	1
Commerce and Industry, a 3	Commerce	2
or		
Freehand Drawing, b 3	Art	2
Military Tactics, 3		
Elective, a & b 3		

For list of preparatory electives, see the following pages.

SECOND YEAR.

First Semester—

English Composition and Rhetoric, a 5	English	3
Algebra, a 5	Mathematics	3
Elementary Biology, a 3, b 2	Entomology	1
Military Tactics, 3		
Elective, a & b 3		

Second Semester—

English Composition and Rhetoric, a 5	English	4
Algebra, a 5	Mathematics	4
Elementary Biology, a 3, b 2	Entomology	2
Military Tactics, 3		
Elective, a & b 3		

For list of preparatory electives, see the following pages.

THIRD YEAR.

First Semester—

American Literature, a 4	English	5
Plane Geometry, a 4	Mathematics	5
German, a 5	German	1a
Greek History, 3	History	3

Military Tactics, 3		
Elective, a & b 3		

Second Semester—

American Literature, a 4	English	6
Plane Geometry, a 4	Mathematics	6
German, a 5	German	2a
Roman History, a 3	History	4
Military Tactics, 3		
Elective, a & b 3		

For list of preparatory electives, see the following pages.

FOURTH YEAR.

First Semester—

English Literature, a 3	English	7
Elementary Physics, a 3, b 2	Physics	1
German, a 5	German	3a
English History, a 3	History	5
Military Tactics, 3		
Elective, a & b 3		

Second Semester—

English Literature, a 3	English	8
Elementary Physics, a 3, b 2	Physics	2
German, a 5	German	4a
American History, a 3	History	6
Military Tactics, 3		
Elective, a & b 3		

For list of preparatory electives, see the following pages.

PREPARATORY ELECTIVES.

FIRST AND SECOND YEARS.

First Semester—

Freehand Drawing, b 3	Art	1
Carpentry, b 3	Mechanical Engineering	1
Elementary Agriculture, a 3	Agriculture	1
Sewing, b 3	Home Economics	1
Bookkeeping, b 3	Commerce	4
Business Correspondence, a 3	Commerce	1
Typewriting, b 2	Commerce	6

Second Semester—

Freehand Drawing, b 3	Art	2
Forging, b 3	Mechanical Engineering	2
Elementary Agriculture, a 3	Agriculture	2
Cooking, b 3	Home Economics	2
Bookkeeping, a 3	Commerce	4
Typewriting, b 2	Commerce	8
Commerce and Industry, a 3	Commerce	2

THIRD AND FOURTH YEARS.

First Semester—

Freehand Drawing, b 3	Art	1
Sewing, b 3	Home Economics	1
Carpentry, b 3	Mechanical Engineering	1
*Shorthand, a 5	Commerce	5
Elementary Agriculture, a 3	Agriculture	1
Typewriting, b 3	Commerce	6
Elementary Physiology, a 2, b 1	Zoology	1
Mechanical Drawing, b 3	Mechanical Engineering	5
Business Law, a 3	Commerce	9
Bookkeeping, b 3	Commerce	3

Second Semester—

Freehand Drawing, b 3	Art	2
Cooking, b 3	Home Economics	2
Bookkeeping, b 3	Commerce	4
Forging, b 3	Mechanical Engineering	2
Mechanical Drawing, b 3	Mechanical Engineering	5
Typewriting, b 3	Commerce	8
*Shorthand, a 5	Commerce	7
Elementary Agriculture, a 3	Agriculture	2
Elementary Physiology, a 2, b 1	Zoology	2
Money and Banking, a 3	Commerce	10

*Students taking Shorthand will be allowed to substitute typewriting for Greek History and Roman History, or for English History and American History.

School of Agriculture

PROFESSOR STIVERS; MISS FROMME.

The School of Agriculture has for its specific purpose the training of young people for the life and work of the farm and home, for the social life of the rural community and for American citizenship.

The farmers' boys and girls are often needed on the farm and in the homes to help the parents during the busy season of the year. They can usually be spared from such work during the winter season, and may well spend this time in study which will prepare them for practical, profitable farming and successful home management.

While the subjects of study consist primarily of those that relate to farming and household economy, they include also such subjects as are usually given in a regular high school course. For example, English, mathematics, history, civics, chemistry, physics and biology. The technical topics include studies in soil, plants and crops, domestic animals, feeds and feeding, cooking and sewing, laundering, farm and home management, records and accounts, carpentry and blacksmithing. Text books are used when these aids best answer the purpose. Lectures are given in the subjects which can be most efficiently taught in this way. Demonstrations are given in the class rooms, laboratories, kitchen and sewing rooms, barns, greenhouses, orchards and fields.

The School of Agriculture welcomes earnest and worthy young men and women from all parts of the state who have passed the eighth grade in the public schools and are willing to work in such a course of mental and manual training as will prepare them for life's labors, on the farms and in the homes of South Dakota.

The tuition is six dollars for the year, with a small fee for each laboratory in which work is taken.

COURSES OF STUDY.

Following are the schedules of the courses of study. The academic studies are practically the same for men and women. The courses are differentiated only in such points as are related to their specific spheres in life's work.

FOUR YEAR COURSE FOR YOUNG MEN.

Note: The small letters and numerals after the names of subjects indicate the character of the work and the number of times a week, "a" meaning class work, "b" laboratory work.

FIRST YEAR.

Penmanship and Spelling	a 2
English	a 4
Arithmetic or Algebra	a 4
Poultry Culture	a 2
Farm Crops	a 3, b 2
Stock Judging	b 2
Horticulture	b 1
Carpentry	b 3
Lectures on Science	a 2
Military Drill	3

SECOND YEAR.

Biology	a 5
Farm Accounts	b 1

English	a 4
Algebra	a 4
Dairying	a 1, b 2
Horticulture	b 1
Blacksmithing	b 3
Military Drill	3

THIRD YEAR.

Civics	a 3
Elementary Chemistry	a and b 4
English	a 4
Plane Geometry or Algebra	a 4
Farm Machinery	a 2
Entomology	a 1, b 1
Stock Feeding	a 5
Military Drill	3

FOURTH YEAR.

History (includes lectures on Co-Operation)	a 4
English	a 4
Elementary Physics	a 2, b 2
Physiology	a 1, b 1
Veterinary Science	a 3
Soils	b 3
Breeds and Breeding	a 2, b 1
Military Drill	3

FOUR YEAR COURSE FOR YOUNG WOMEN.

FIRST YEAR.

Penmanship and Spelling	a 2
English	a 4
Arithmetic or Algebra	a 4
Freehand Drawing	b 2
Poultry	a 2
Cooking	a 1, b 3
Sewing 1	b 3
Dairying	b 1
Horticulture	b 1
Lectures on Science	a 2
Physical Training	3

SECOND YEAR.

Biology	a 5
Farm Accounts	b 1
English	a 4
Algebra	a 4
Food, Dietetics and Serving	a 1, b 2

Household Management	a 1
Art Needlework	b 2
Craft	b 1
Physical Training	3

THIRD YEAR.

Civics	a 3
Elementary Chemistry	a & b 4
English	a 4
Plane Geometry or Algebra	a 4
Textiles and Sewing II, Laundering	a 1, b 3
The House	a 2
Craft	b 1
Physical Training	3

FOURTH YEAR.

History (including lectures on Co-Operation)	a 4
English	a 4
Elementary Physics	a 2, b 2
Physiology	a 1, b 1
Sewing 111 and Millinery	b 2
Advanced Cookery and Invalid Cookery	a 1, b 2
Home Nursing and Emergencies and Care of Children	a 2
Physical Training	3

Short Industrial Courses

Special work is offered in the various industrial departments for the benefit of those who can not avail themselves of the opportunities offered in the longer courses. These short courses are becoming a very attractive and profitable feature in the lives of many who can get away from their homes only at the time of the year when the work is offered, and persons of all ages, young and old, are found working side by side in these classes, to improve the conditions of their lives in the home and on the farm. A special effort is put forth to make the work interesting and specialists from other institutions are often engaged to assist in the instruction.

Since much of this work is adapted to the needs of the persons enrolled for it, the courses cannot be very fully described here. For a more detailed description of any particular work, address inquiries to the department concerned or to the President of the College.

The different courses are mentioned below:

THE ONE WEEK COURSE IN AGRICULTURE—FARMERS' WEEK.

January 4th to January 9th.

This course will consist of lectures on judging live stock, stock breeding, stock feeding, corn judging, grading and cleaning grain, poultry management and kindred subjects.

The tuition fee for this course is one dollar.

ONE WEEK COURSE FOR CREAM TESTERS.

December 14th to December 18th.

During the past few years there has been a demand for a short course giving instruction in testing cream for butterfat and percent acidity, and as to the proper method of handling cream. This demand has come largely from cream buyers. Since the state law, which requires all operators of the Babcock test to pass an examination and take out a license, went into effect, the requests for such a course have increased.

To fill this want the Dairy Husbandry Department will give a one week course. The fee will be $2.00. Opportunity for examination will be given immediately after this course. All licenses expire January 1.

THE THREE MONTHS' CREAMERY COURSE.

January 12th to April 1st.

This course is especially designed for young men wishing to fit themselves for various positions connected with the creamery industry such as helpers, buttermakers, managers, inspectors, etc.

Prospective students are urged to get at least six months of practical experience in some creamery before attending College, as by this means it is found that much greater benefit is derived from the work at the school.

The more general application of scientific principles to the manufacturing industries as well as the increasing competition on all sides demands a more thorough training in scientific and business methods than heretofore. This is no less true with regard to the creamery industry, and while the practical work of the school is by no means neglected special pains are taken to teach the underlying principles and the ''reason why'' for many of our daily operations.

The increasing interest in dairying in South Dakota and the consequent multiplication of creameries are creating a demand for men well trained along dairy lines, and applications for such are constantly being received at salaries varying from $50 to $125 per month. Worthy students may count on the co-operation of the dairy department in helping them to secure positions at the close of their college work.

The following work is offered:

Factory buttermaking and creamery management.
Testing milk and its products.
Dairy bacteriology.
Dairy arithmetic and bookkeeping.
Breeding, feeding and management of dairy cattle.
Agronomy.
Veterinary Medicine.
Creamery Mechanics.

The tuition is four dollars for the three months' term with a small additional fee for laboratory expenses.

A certificate of standing will be issued to all students passing satisfactory examinations on the above subjects.

COURSE IN TRACTION ENGINEERING.

January 12th to June 4th.

Modern agricultural methods have introduced the steam and gas engine, as a substitute for animal power, in such a marked degree, that the consequent growing demand for traction engineers has led the College to arrange a five months' course for the special training of such engineers. Extreme care has been taken to offer only such work as will prove valuble to the man running the traction engine and other machinery. A relatively large amount of shop work and engine practice is introduced.

For the work in engine practice several of the most modern types of both steam and gas traction engines are available. Enough time is devoted to this part of the work to make each student thoroughly familiar with all of the engines, and able to operate them satisfactorily in actual practice. The engine practice work generally starts as soon as the frost is out of the ground, or about April 10th, and continues to the end of the term.

A proper proportion of recitations in closely allied subjects is also included in this course.

The tuition is eight dollars for the entire course with a small amount extra for laboratory fees.

Upon the satisfactory completion of the work the student is given a certificate which is virtually the same as a license to run an engine in this state.

Students who desire to take this course are expected to pass a satisfactory examination in arithmetic, to read intelligently and to show such general elementary training as will indicate that they are able to understand the subjects embraced in this course.

The work offered is as follows:

Arithmetic	a 5
Heat Engines and Elementary Physics	a 5
Stock Judging or Civil Government	a 2½
Steam and Gas Engine Lectures	a 2½
Forging	b 2½
Mechanical Drawing	b 2½
Engine Practice	b 2

COURSE OF INSTRUCTION IN THE CARE AND MANAGEMENT OF THE AUTOMOBILE.

May 24th to June 4th.

This course will be thoroughly practical in its nature and will be devoted exclusively to the study of the construction, care and operation of the automobile, in all its details, so as to insure safety to the mechanism as well as economy in general running expenses.

The course will include both lecture and practical laboratory work with automobiles. Each student will have practice in taking down automobiles and after a thorough examination and understanding of the individual parts he will reassemble the machines ready for use.

The tuition fee for the course is one dollar.

The course is open to anyone who desires to take the work.

College Alumni

ALUMNI ASSOCIATION.

A. S. Harding, '92................................President
H. H. Hoy, '96.............................First Vice-President
Geo. C. Phillips, '09.......................Second Vice-President
Ruth A. Wood, '13..........................Third Vice-President
H. B. Mathews, '92........................Secretary and Treasurer

Class of 1886.

BACHELOR OF SCIENCE.

Sayler, Marcus A., ...Fruit Grower, Orland, Cal.

Class of 1888.

BACHELOR OF SCIENCE.

Aldrich, John M..
With U. S. Bureau of Entomology, 238 S. Grant St., LaFayette, Ind.
Lawrence, Philip A.........................Attorney, Fargo, N. D.
Wellman, Lulah (Hewes).............................Mayville, N. Y.

Class of 1889.

BACHELOR OF SCIENCE.

Boswell, Katie (Arnold).................................Kennebec
Cranston, Mary (Crane)..........................Chewelah, Wash.
Cross, Alvah G..
Eno, Durell G.....................................Merchant, Platte
Grady, Francis A.......................Attorney, Crookston, Minn.
Haber, Sarah (Cunningham)......1015 Grand Blvd., Spokane, Wash.
Korstad, Hans......................Rural Mail Carrier, Brookings
Larson, Lars K.........................Bank Cashier, Dell Rapids
Lawshe, Grace (Brooke)..................................
........Cashier Dept. Store, 1649 Ashland Ave., St. Paul, Minn.
McKenney, Duston W......................................
....Supervisor Manual Training, 302 Lewis Ave., Billings, Mont.
McLouth, Lewis C., Gen. Mgr. Miniature Sales Co..............
..........................1228 Chamber Com., Detroit, Mich.
Mork, Albert A..........................Farmer, Grelland, N. D.
Roe, Ellen (Aldrich)........Died Dec. 8th, 1897, at Helena, Mont.
Rogers, Edmund........Machinist, 104 Eleventh St., Milwaukee, Wis.
Ross, Carrie (Orcutt)...........518 W. Third St., Northfield, Minn.
Ross, Abbie (Wesche)..................................Webb, Ia.
Wardall, Anna (Scott).Osteopath, 3201-41 Ave., S. W., Seattle, Wash.

Class of 1890.

BACHELOR OF SCIENCE.

Allen, William C..............................Died in Chicago
Day, John M..............................Farmer, Ekalaka, Mont.
Duffey, Maggie (Irish)......709 Title Guaranty Bldg., St. Louis, Mo.
Egeburg, Hildus..............................Farmer, Brookings
Haasarud, Ole H..........................Farmer, Bratsburg, Minn.
Harkins, Lilla A., Prof. of Dom. Science...Montana Agricultural College, Bozeman
Hopkins, Cyril G., Prof. of Agronomy, Chemist and Vice Director of Experiment Sta., U. of Illinois, 1001 S. Wright St., Champaign
Jenkins, John C........Attorney, 815 Spalding Bldg., Portland, Ore.
Kenyon, Arthur H......Lawyer, 1315 Mallon Ave., Spokane, Wash.
Pyne, Estel W....Piano Dealer, 633 S. Union Ave., Los Angeles, Cal.
Roe, Guy W...........State Mgr. Union Fibre Co., Yorktown, Ind.
Stoner, Minna A., Prof. of Home Economics..N. D. Agricultural College, Fargo, N. D.
Wardall, Norman M., Deputy County Auditor..2215 41st Ave., S. W., Seattle, Wash.

Class of 1891.

MASTER OF SCIENCE.

Aldrich, John M..With U. S. Bureau of Entomology, Lafayette, Ind.

BACHELOR OF SCIENCE.

Aldrich, Irwin D...................Editor and Publisher, Big Stone
Bell, William D.........................Editor, St. James, Minn.
Bentley, Wm. S............................Physician, Hot Springs
Chamberlain, Jennie (Spooner).Physician, 813 4th Ave., Detroit, Mich.
Crane, Austin B.......................Teacher, Chewelah, Wash.
Davis, Homer............................Physician, Genoa, Neb.
Dillon, Willis C..
Doughty, Hettie (Dibble)........................Beresford, S. D.
Frick, Mary (Magaw).........903 W. Zumbro St., Rochester, Minn.
Hann, Jay B.....................Photographer, Bellingham, Wash.
Houston, Grant............................Physician, Joliet, Ill.
Irish, Henry C, Horticulturist, 709 Title Guaranty Bldg., St. Louis, Mo.
Lewis, Perry...........Inventor, 101 E. Cherry St., Mankato, Minn.
Robinson, Alice (Haberlein)....1710 Arlington St., Los Angeles, Cal.
Shannon, Fanny (Fourt)..........................Fairfield, Iowa
Solberg, Halvor C......Prof. Steam and Mechanical Eng., S. D. S. C.
Updyke, Nora (Bacon)..............2211 Elizabeth St., Pueblo, Col.
Valleau, Vinal B.....................Merchant, Albert Lea, Minn.
West, Hugh H...............Physician, Spurling Bldg., Elgin, Ill.
Wolgemuth, Lee E..................Real Estate, Hamilton, Mont.

Class of 1892.

BACHELOR OF SCIENCE.

Austin, Steven E., Mechanical Engineer...Cor. Harrison St. and 42 Court, Chicago
Davis, Samuel H........................Farmer, Beaverton, Ore.
Griffiths, David, Asst. Agrostologist, Agr. Dept., Tacoma Park, Wash.
Hamlin, John R., Jr....................Merchant, Hawthorne, Cal.
Harding, Albert S., Prof. of History & Political Science, S. D. S. C.
Hatfield, Ira A...............Died Feb. 8th, 1914, at Lincoln, Neb.
Keeney, Emma A.....................Physician, Silver Lake, Ore.
Madden, Marguerite (Akin)............................Brookings
Mathews, Hubert B..................Prof. of Physics, S. D. S. C.
McAndrew, James E......Lawyer, 808 Realty Block, Spokane, Wash.
McLouth, Ida B.........Died Aug. 27, 1899, at Short Beach, Conn.
Plocker, Eva (Mathews)...............................Brookings
Schlosser, Thomas F.....................Clergyman, Carlton, Ore.
Sloan, Nettie (Torrence).........................Redlands, Cal.
Snell, Effie (Clark)...........................Memphis, Neb.
Whitten, John C..........Prof. of Hort., U. of Missouri, Columbia
Winegar, Albert J........Life Insurance, 854 Bluff St., Beloit, Wis.

Class of 1893.

MASTER OF SCIENCE.

Griffiths, David, Asst. Agrostologist.................................Dept. of Agriculture, Tacoma Park, Washington, D. C.

BACHELOR OF SCIENCE.

Bates, Edmund T.......................Farmer, Wyoming, Iowa
Beck, Milton...........Engineer, 10831 Tawana Ave., Cleveland, O.
Edgerton, Wm. M...........................Physician, Faulkton
McLouth, Benjamin F., Ins. Agent..L. A. Investment Bldg, Los Angeles, Cal.
Robertson, Ada N........Teacher, R. F. D. No. 225, Anaheim, Cal.
Robertson, Clarence H., Science Teacher and Y. M. C. A. Sec. ....for China, 120 Szechuen Road, Shanghai, China
Schoppe, W. J. A............................Farmer, Groton, S. D.

Class of 1894.

MASTER OF SCIENCE.

Plocker, Eva (Mathews)...............................Brookings
Wolgemuth, Lee E...................Real Estate, Hamilton, Mont.

BACHELOR OF SCIENCE.

Brown, Cyrus O.........................Attorney, Douglas, Wyo.
Brown, James A............Attorney, 522 Burr Block, Lincoln, Neb.
Dibble, Hattie (Stow)...............................Castlewood

Hopkins, Mrs. C. G..............1001 S. Wright St., Champaign, Ill.
Luke, Fred K...............Farmer, R. F. D. No. 2, Kalispell, Mont.
Parker, Fannie (Spooner).................................Brookings
Sproul, Alex H., Director Com. Dept., State Normal, Salem, Mass.
Tanzy, Marvin F................Died Feb. 8, 1900, at Canton, S. D.
Waters, Geo. D........707 Merchants' Bank Bldg., Indianapolis, Ind.
Williams, Elinor (Knox)...............................Mesa, Arizona
Young, Gilbert A., Prof. of Mech. Eng., Purdue Univ...739 Owen St., Lafayette, Ind.

Class of 1895.

MASTER OF SCIENCE.

McKenney, Duston W., Supervisor Manual Training...302 Lewis Ave., Billings, Mont.
Schoppe, W. J. A................................Farmer, Groton
Sproul, Alex H., Director Com. Dept., State Normal, Salem, Mass.

BACHELOR OF SCIENCE.

Allison, Wm. F., Professor of Civil Eng., U. of Oregon, Eugene, Ore.
Brown, Sara..........................Teacher, Shannon City, Iowa
Cornell, Harry M.........................Real Estate, Fargo, N. D.
Mayland, Mable (Merrick)..............................Troy, Kan.
Parker, Anna (Moore)..............................Brookings
Salisbury, Edith (Robertson)............120 Szechuen Road, China
Sevy, Isaac B........................Teacher, Freewater, Oregon
Sproul, Wm. T., Gen. Mgr. Ingersoll Milling Machine Co...Rockford, Illinois
Thornber, John J...........Prof. of Botany, U. of Arizona, Tuscon
Wilcox, Ernest N.........................Farmer, Thawville, Ill.

PHARMACY GRADUATES.

Briggs, Elmer E..........................Farmer, Muscoda, Wis.
Knox, Wm. H.............................Farmer, Mesa, Arizona
Lentz, Elmer A................................Dentist, Brookings
Murphy, Wm......................Died July 5, 1896, at Brookings
Whitehead, B. T.......................Prof. Pharmacy, S. D. S. C

Class of 1896.

MASTER OF SCIENCE.

Brown, James A............Attorney, 522 Burr Block, Lincoln, Neb.
Luke, Fred K..............Farmer, R. F. D. No. 2, Kalispell, Mont.
Robertson, Ada N.........Teacher, R. F. D. No. 225, Anaheim, Cal.
Snell, Effie (Clark)................................Memphis, Neb.
Wilcox, Ernest N.........................Farmer, Thawville, Ill.

BACHELOR OF SCIENCE.

Atkinson, Jesse C........................Farmer, Allegan, Mich.
Carter, Louis W...........................Post Master, Highmore
Dibble, Ida (Brown).................522 Burr Block, Lincoln, Neb.
Downing, Jennie C..............................Rathdrum, Idaho
Grattan, Paul H...............Hardware Merchant, Jackson, Minn.
Hegeman, Harry A., Captain, 19th Infantry, U. S. A.........
..................................Vancouver Barracks, Ore.
Holm, Andrew B.............................Accountant, Pierre
Hoy, Howard H......Asst. Prof. of Phys. and El. Eng., S. D. S. C.
Korstad, Mary ....Brookings
Lusk, Willard C......Editor Yankton Press and Dakotan, Yankton
Mathews, Nora (Hoy).....................................Brookings
Mathews, Alta (Smith)........................Las Vegas, Nevada
Sasse, Ernest G......................Physician, Lidgerwood, N. D.
Williamson, Albert.............................Attorney, Kennebec

PHARMACY GRADUATES.

Cotter, J. C...............................Merchant, Dell Rapids
Grove, Eugene..........................Physician, Hetland, S. D.
Moore, Thomas..............................Druggist, Waterloo, Ia.
Palmer, Horton.................................Druggist, White
Sherwin, Frank.......................Merchant, Willamina, Ore.

Class of 1897.

MASTER OF SCIENCE.

Davis, Homer.............................Physician, Genoa, Neb.

BACHELOR OF SCIENCE.

Ainsworth, Cephas B.........Land, 406 Idaho St., Lewiston, Mont.
Atkinson, George....Map Publisher, Ceylon, Sackatchewan, Canada
Atkinson, Walter., Civil Engineering, 632 W. 67th St., Chicago, Ill.
Boyden, Frank E...........Physician and Surgeon, Pendleton, Ore.
Clevenger, John W...........................Dentist, Chamberlain
Hargis, Christie (Saylor).......1019 6th Ave., E., Des Moines, Iowa.
Hazle, Wm. A...............Lawyer, 208 6th Ave., S. E., Aberdeen
Husted, Harley H...........Died Jan. 14th, 1907, at Lincoln, Neb.
Jolley, Wm. G..........Teacher, 5032 6th St., S. E., Portland, Ore.
Madden, Cassie (Crowley)...........................Brookings
Olson, Eva.......................Teacher, South St. Paul, Minn.
Parsons, Thos. S........Prof. of Agro., U. of Wyo., Laramie, Wyo.
Roe, Robert.............................Stockman, Highmore
Shuster, John W....Asst. Prof. Elec. Eng., U. of Wisconsin, Madison
Thornber, Walter S., Pres. Lewiston-Clarkson School of Hort.
.... Lewiston, Idaho
Walters, Wm. H.............................Grain Buyer, Bruce

West, Orpha (Sevy)..............................Freewater, Ore.
Whaley, Neva (Harding)..............................Brookings
Whitehead, Bower T...............Prof. of Pharmacy, S. D. S. C.
Wilcox, Alice (Remsburg)..........................Thawville, Ill.
Work, Lloyd E......Bond Salesman, 10 S. La Salle St., Chicago, Ill.
Young, Grace (Bullen)...............260 Jessup St., Portland, Ore.

Class of 1898.

MASTER OF SCIENCE.

Chilcott, E. C., Agronomist in Charge of Dry Land Agriculture,
....Washington, D. C.
Harkins Lilla A., Prof. Domestic Science......................
........................Montana Agri. College, Bozeman, Mont.
Parsons, Thomas S........Prof. of Agro., U. of Wyo., Laramie, Wyo.

BACHELOR OF SCIENCE.

Ainsworth, Howard, Fruit Grower............................
........................R. F. D. No. 17, Mountain View, Cal.
Ainsworth, Flora (Hazle).............208 6th Ave., S. E., Aberdeen
Barton, Alice (White)...........................Santa Ana, Cal.
Beck, Lewis............Engineer "Ana Fean Farm," Barberton, O.
Bolles, Myrick N..........Mill Manager, 413 Wall St., Joplin, Mo.
Curtiss, Elsie (Crane).........................Kettle Falls, Wash.
Davidson, Margaret (Crane).......613 Euclid Ave., Spokane, Wash.
Fjerestad, Hans C.............................Loans, Sioux Falls
Harding, Charles J.........................Teacher, Mankato, Minn.
Hegeman, Maude (Boyden)..........................Pendleton, Ore.
Hegeman, Mabel (Allison)............................Eugene, Ore.
Hodgeson, Herbert H., Top. Engineer, U. S. Geol. Survey, Wash., D. C.
Knox, Wm. H..............................Farmer, Mesa, Arizona
Lawrence, Claude W.......................Farmer, Sequim, Wash.
Lawrence, Clay.............Lawyer, Pioneer Bldg., Seattle, Wash.
Loveland, Addie (Towne)....2104 Penn. Ave. S., Minneapolis, Minn.
Paddock, Jay M.................Traveling Salesman, Eugene, Ore.
Riemann, Edith (Adams)....34 Rue de Comines, Bruxelles, Belgium
Thornber, Wm. T................................Farmer, Colman
Towne, Judson., Teacher Physics, E. Side H. S................
........................2104 Penn Ave. S., Minneapolis, Minn.

PHARMACY GRADUATES.

Beebe, Jay L., Physician and Surgeon.......................
............................510 W. Center St., Anaheim, Cal.
Clevenger, J. W................................Dentist, Chamberlain
Holsey, Joseph................................Druggist, Veblen
Lee, Berton E..........Accountant, 104 S. 4th St., Mankato, Minn.

Class of 1899.

MASTER OF SCIENCE.

Dibble, Hattie (Stow)................................Castlewood
Mathews, Hubert B.......................Prof. of Phys., S. D. S. C.
Thornber, Walter S., Pres. Lewiston-Clarkson School of Hort. .... Lewiston, Idaho
Whitten, John C., Professor of Horticulture, U. of Missouri, Columbia

BACHELOR OF SCIENCE.

Colegrove, Ina (Nelson)............148 West St., Worcester, Mass.
Findeis, Phillip.......................Lumber Merchant, Miranda
Lawrence, Mary M., Inst. in Dom. Sc., State Normal.......... .... Bellingham, Washington
Lawrence, Wm H.............Horticulturist, U. of Arizona, Tucson
Mason, Nellie (Mason).................................Albia, Ia.
Nachtigal, Isaac.............................Farmer, South Shore
Sherwin, Howard H., Civil Engineer, Terminal Station........ .... Jacksonville, Fla.
Walters, Edith (Fystrom)....Died May 16, 1910, at Geneseo, N. D.
West, George........................Physician, Armstrong, Iowa

PHARMACY GRADUATES.

Carr, George...............................Druggist, Bison
Crowley, D. C...........................Druggist, Portland, Ore.
Hepner, Frank.............Asst. Chemist U. of Wyoming, Laramie
Kendall, Clint D...........................Druggist, Brookings
Lindsey, Charles.............................Farmer, Winfred
Oulton, Frank...........................Real Estate, Faulkton
Shriver, E. M......................Real Estate, North Bend, Ore.
Taylor, C. DeWitt......................Pharmacist, Denver, Col.

Class of 1900.

Allen, Hart M..........................Druggist, Woodland, Cal.
Anderson, Clark W............Died March 6th, 1902, at Brookings
Beebe, Jay L., Physician and Surgeon....................... ....510 W. Center St., Anaheim, Cal.
Carlson, Esther (Lilygreen).......701 Magnolia St., St. Paul, Minn.
Carlson, Ella (Howard)...............................Lake Preston
Davies, Sara (Sherwin)........Terminal Station, Jacksonville, Fla.
Davies, Mary (Hutchins).........................Falls City, Neb.
DeLa, John W............................Editor, Balfour, N. D.
Doughty, Matthew H..................Civil Engineer, Denver, Col.
Grove, Frank W.............................Dentist, Delta, Col.
Harza, Carl.............Electrician, 21 Scovel Place, Detroit, Mich.
Kendall, Clinton D.........................Druggist, Brookings
Lawrence, Jessie (Hagerman)......328 W. 76th St., Seattle, Wash.

Mathews, Alice (Albright)........714 20th St. N., Great Falls, Mont.
Mathews, Roscoe A., Lumberman, 1323 6th Ave. N............
....Great Falls, Mont.
Morrison, Freda (Cole)........................Wenatchee, Wash.
Olson, Gustava (Hodgeson)..U. S. Geol.. Survey., Washington, D. C.
Williams, Callie (Olson)...............................Sioux Falls

PHARMACY GRADUATES.

Bentley, Wm. S................Physician and Surgeon, Hot Springs
Brosseau, Jessie E...............Physician and Surgeon, Frankfort
Baldwin, Corwin B..........................Druggist, Rapid City
Connell, John C........................Druggist, Luverne, Minn.
Else, Earl..................Physician and Surgeon, Portland, Ore.
Eckhart, Henry...........................Died at Menno, S. D.
George, William.....................Physician and Surgeon, Selby
Hart, Bertrand......................Physician and Surgeon, Blunt
Jones, Robert ....Druggist, Madison
West, Hugh H.....Physician and Surgeon, Spurling Bldg., Elgin, Ill.

Class of 1901.

MASTER OF SCIENCE.

Knox, Wm. H.............................Farmer, Mesa, Arizona
Whitehead, Bower T............Professor of Pharmacy, S. D. S. C.

BACHELOR OF SCIENCE.

Bagley, Sussana..Teacher, 3012 Ezekiel St., Lake Co., Zion City, Ill.
Bolles, Laura Jane.....................Teacher, Muskogee, Okla.
Brosseau, Jesse E..........................Physician, Frankfort
Boyd, Mary (Labbitt)...............410 13th St., Sioux City, Ia.
Cranston, Margaret (Young)....Died June 7, 1907, at Oakes, N. D.
Culhane, Michael E. ....Culhane Adjust. Co., Brookings
Davies, Autumn, Inst. in Hist., H. S.......Mason Apartments,
....Omaha, Neb.
Dodge, Fred E.............................Hotel Mgr., Redfield
Else, Earl..................Physician and Surgeon, Portland, Ore.
Enos, Winifred ....Librarian, Brookings
Erickson, Martin L................Forestry Service, Medford, Ore.
Evans, Lina (Roskie).....................................Custer
Fishback, Myra (Kennedy)...........86 College St., Calcutta, India
Harza, LeRoy F.......................Civil Eng., The Dalles, Ore.
Hatton, Jno. H..........Forestry Service, Cornelia Apartments
....San Francisco, Cal.
Johnson, Rhoda (Lee)..............Died Oct. 18, 1909, Denver, Col.
Kendall, Leonard J. ....Telegraph Operator, Brookings
Kennedy, C. Leroy, Fruit Raiser, R. F. D. No. 18.............
...................................Mountain View, Cal.
Langdon, Lillian (Culhane)..........................Brookings

McElmurry, Loretta, Teacher, Domestic Science, City Schools.. .... Brookings
Mork, Theodore..........................Farmer, Des Lacs, N. D.
Phillips, Florence (Haas)..............................Arlington
Phillips, C. Louise....Librarian, U. S. Dept. Ag., Washington, D. C.

PHARMACY GRADUATES.

Cornell, Edward..........................Pharmacist, Aberdeen
Tidball, Clyde ....Druggist, Brookings

Class of 1902.

BACHELOR OF SCIENCE.

Fleming, Michael, With M. A. Hanna Coal Co., Pioneer Bldg. ....St. Paul, Minn.
George, William A...................Physician and Surgeon, Selby
Hart, Bertrand M. ....Physician and Surgeon, Blunt
Hepner, Frank E., Ass't Station Chemist, Univ. of Wyoming .... Laramie
Johnson, Clara (Johnson)...........................Brookings
Johnson, Edward................Died May 1, 1907, Tacoma, Wash.
Kephart, George ....Lawyer, Iowa Building, Sioux City, Ia.
Lee, Berton E..........Accountant, 104 S. 4th St., Mankato, Minn.
Ramsey, Henry J., Expert in Fruit Storage, Bureau Plant Industry, 309 Argyle Apartments..............Washington, D. C.
Roskie, Geo. ....Forester, Custer
Thornber, Edith (Cuckow(..........................Brookings
Trooien, Ole N...........................Contractor, Brookings
Winegar, Laura...............................Nurse, Brookings

PHARMACY GRADUATES.

Allison, Wm. F., Prof. Civil Engineering, U. of Oregon..Eugene, Ore.
Boyden, Frank E. ....Physician and Surgeon, Pendleton, Ore.
Christianson, Bernett................Druggist, Wessington Springs
Hayter, McPherson ....Druggist, Artesian
Jarrett, Arthur A. ....Druggist, Colman
Jarvis, S. Hall.............................Druggist, Faulkton
Leighty, James A. ....Druggist, Winfred
Morton, Frederic M. ....Druggist, Effington, S. D.
Pickles, Chester E. ....Farmer, Elrod
Schnaidt, Henry ....Druggist, Parkston
Schroeder, Anna (Gassman) ....Howard
Thomas, John C. ....Druggist, Marion

Class of 1903.

MASTER OF SCIENCE.

Crane, Austin B., Civil Engineer..................Chewelah, Wash.
Hoy, Howard H............Asst. Prof. Phy. and El. Eng., S. D. S. C.

BACHELOR OF SCIENCE.

Almond, Fred C. ....Died March 12th, 1909, at Clear Lake
Cole, John S., Examiner of Dry Land Agr. Exp. Stations, Dept.
of Agr. ....989 So. Penn Ave., Denver, Col.
Colegrove, Lettie (Drew)............Telephone Operator, Brookings
Cuckow, Fred W. ....Lawyer, Brookings
Hubbart, Minnie (Holbein) ....Lansford, N. D.
Johnson, Isaac ....Lumberman, Brookings
Kendall, Krete (Miller) .... Brookings
Langdon, Alice ....Stenographer, Brookings
Miller, Shirley P. ....Professor Zoology, S. D. S. C.
Norton, Frank A. ....Fruit Grower, Grand View, Wash.
Otterness, Jens M., Private Sec. to Senator Sterling............
.....................441 Senate Office Bldg., Washington, D. C.
Peirce, E. Esther...........Teacher, 211 5th St., S. E., Watertown
Sanborn, Ethel I. ....Teacher, 6700 12th Ave., E., Eugene, Ore.
Sarvis, Roscoe J., Elec. Engineer, 1319 7th St., S. E..........
.... Minneapolis, Minn.
Seide, Louise (Prell)...............................Calamus, Iowa
Webster, James L. ....Farmer, Wenatchee, Wash.
Westcott, Geo. R., Asst. Engr. Mo. Pac. Ry., 3837 Russell St.
....St. Louis, Mo.

PHARMACY GRADUATES.

Drew, Arthur W., Physician, St. Barnabas Hospital, St. Paul, Minn.
Hall, Roy J. ....Druggist, Oldham
Heston, Edward C. ....Physician and Surgeon, Roslyn, Wash.
Hollister, Arthur R..................Traveling Salesman, Madison
Howell, John E., Chemist, S. P. R. R., 402 Hathaway St.,......
....Houston, Tex.
Johnston, Samuel...............................Druggist, Hazel
Norton, Frank A. ....Fruit Grower, Grand View, Wash.
Steiner, Frederick W. ....Physician, Havre de Grace, Md.
Trumm, Robert E. ....Druggist, Hayti
Van Dusen, Fred J. ....Lead, S. D.
Young, Alfred J. ....Farmer, Adanac, Saskatchewan

Class of 1904.

MASTER OF SCIENCE.

Trooien, Ole N.............................Contractor, Brookings

BACHELOR OF SCIENCE.

Binford, Wm. W. ....Lumberman, Greenleaf, Idaho
Bushnell, Maude (Kelton) ....Henry, S. D.
Loucks, Anna Y. (Brown) ....Brookings
Mattice, Albert F..................Eye Specialist, Anacortes, Wis.

McGarry, Lawrence R.......................Bank Cashier, Mansfield
Ruth Thomas H. ....Veterinary Surgeon, De Smet
Sanderson, Everett G. ....Farmer, Aurora
Sherwin, Ralph L., Civil Engineer, Ry. Terminal Station......
.... Jacksonville, Fla.
Smith, Wm. H.........................Missionary, Damaguete, P. I.
Thompson, Clarence ....Farmer, Dell Rapids
Walter L. Erving...Conde

PHARMACY GRADUATES.

Anderson, Ernest ....Druggist, South Shore
Dillon, Cornelius........Druggist, Hotel Smede Bldg., Eugene, Ore.
Frick, Harry E. ....Merchant, Mitchell
Goodale, Alton R......Druggist, Angeles Pharm., Los Angeles, Cal.
Hooker, Henry ....Physician, Danville, Ill.
Koch, Arthur E. ....Chemist, 374 Euclid Ave., Detroit, Mich.
Ramsdell, Leonard C., Druggist, with Murgittroyd's Drug Co.
.... Spokane, Wash.
Thompson, Gottfried............Physician and Surgeon, Sioux Falls
Weisflock, Theodore..........................Druggist, Frankfort

Class of 1905.

MASTER OF SCIENCE.

Hepner, Frank E., Ass't Station Chemist, U. of Wyoming, Laramie
Norton, Frank A. ....Fruit Grower, Grand View, Wash.
Phillips, C. Louise, Librarian, Bureau of Plant Industry, Grain
Standardization...........................Washington, D. C.
Thompson, Clarence ....Farmer, Dell Rapids
Walter, L. Erving...Conde

BACHELOR OF SCIENCE.

Boyden, Guy L. ....Physician and Surgeon, Pendleton, Ore.
Chappell, Bessie .... Teacher, Lamar, Col.
Chappell, Elsie (Wilson) ....Brookings
Davis, Clifford W..........................Farmer, Berkeley, Cal.
Elliott, Roy K......Electrician, 20 Bay State Ave., Somerville, Mass.
Fassett, Della (Loucks) ....Watertown
Fishback, Van Dusen......................Asst. Cashier, Brookings
Forrest, Victor E., Contractor, 224 Boston Block, Minneapolis, Minn.
Fulkerson, Vincent ...... Special Agent, Dept. of Agr., Fallon, Nev.
Grove, Mary (Potter)...........333 W. Grand Ave., Springfield, O.
Hage, Christian F. ....Druggist, Toronto
Howg, Edwin M. ....Physician and Surgeon, Greenbush, Minn.
Jensen, Lewis N., Special Agent U. S. Dept. Agr., Woodward, Okla.
Johnson, Carl L....Electrician, 805 Lincoln Ave., Schenectady, N. Y.
Mathews, Harry E. ......Supt. Forest Reserve, Las Vegas, Nevada
Miller, Ralph L. ....Lumberman, Melville, N. D.

Murphy, Matt W. ....Lawyer, 408 8th Ave. S., Fargo, N. D.
Nelson, John Harland, Prof. Structural Eng., Polytechnic Institute, 148 West St. ....Worcester, Mass.
Ronning, Oscar E. ....Rural Mail Carrier, Hayti
Schaphorst, Wm. F., Technical Advertising, Woolworth Bldg. .... New York City
Seeger, Adolph M. ....Elec. Engineer, Toledo, Ohio
Slocum, Ina S. (Deeley).....2818 Granville St. S., Vancouver, B. C.
Thogerson, Arthur A. ......Contractor, 437 C. of C., Portland, Ore.
Walters, Daisy .... Teacher, Bruce
Williams, Harry ....557 S. Spring St., Los Angeles, Cal.
Williams, Percy, Physician and Surgeon, 557 S. Spring St. .... Los Angeles, Cal.

PHARMACY GRADUATES.

Fjerestad, Carl ....Druggist, Elkton
Howg, Edwin M..........Physician and Surgeon, Greenbush, Minn.
Larson, Lars P. ....Teacher, Howard
Mathews, Harry E. ....Supt. Forest Reserve, Las Vegas, Nev.
McCurdy, Walter ....Druggist, Lane
Morton, Grant J., Federal Drug Ins.................Portland, Ore.
Pottinger, Geo. ....Druggist, Valley Springs, S. D.
Thompson, Clarence ....Farmer, Dell Rapids
Volin, Porter ....Physician, Lennox

Class of 1906.

BACHELOR OF SCIENCE.

Aldrich, G. Malcolm, Prin. Calhoun Schools, R. F. D. No. 2.... .... Hopkins, Minn.
Barrett, J. Wylie.........................Elec. Engr., Plankinton
Bonesteel, Bee (Dillman) .... Newell
Brownell, Ellen (Wellington)........6326 Ripton, Los Angeles, Cal.
Burghardt, Roy D........Electrician, 89 Marion St., Seattle, Wash.
Carpenter, Abbie J. ....Dom. Sc. Teacher, Klamath Falls, Ore.
Chilcott, Ellery F..............Supt. Ex. Station, Woodward, Okla.
Coller, Fred A. ....Physician and Surgeon, Mass. Gen. Hospital .... Boston, Mass.
Davies, Gladys (Grace)...............................Akron, Col.
Erstad, Alfred J., Electrician, Care Standard Machinery Co., ...Portland, Ore.
Evans, Edna V., Dom. Sci. Teacher.................Langdon, N. D.
Grace, Oliver ....Supt. Sub. Sta., Akron, Col.
Kennard, Frank L., Prof. of Agronomy, State Univ., Moscow, Idaho.
Knox, Arthur H. ....Farmer, Alpena
Koch, Arthur E. ....Chemist, 374 Euclid Ave., Detroit, Mich.
Moffatt, Margaret E. .... Teacher, Brookings
Reich, Rose M. ....Teacher, Adams, Wis.

Thornber, Jessie B. ....Brookings
Youngberg, Guy E. ....Asst. in Chem., S. D. S. C.

PHARMACY GRADUATES.

Allison, Harold ....Physician and Surgeon, Heppner, Ore.
Bergeim, Olaf, Asst. in Chem., Jefferson Med. Col., Philadelphia, Pa.
Davies, Gladys, (Grace) ....Akron, Col.
Harben, Bartlett L. ....Died June 10, 1912, at Winner, S. D.
Locke, Chas. ....Pharmacist, Brookings
Wipf, Michael J. ....Bank Clerk, Alsen, N. D.

Class of 1907.

MASTER OF SCIENCE.

Culhane, Michael E. ....Of Culhane Adjustment Co., Brookings

BACHELOR OF SCIENCE.

Binnewies, Mabel E. ....Teacher, Brookings
Briggs, Stephen F. .....Of Briggs & Stratton Co., Milwaukee, Wis.
Burch, Walter S. ....Elec. Engr., Box 653, Rochester, N. Y.
Christianson, Christine ....Teacher, North Yakima, Wash.
Dillman, Arthur C. ......Special Agent, Dept. of Agr., Newell, S. D.
Dutcher, R. Adams, Prof. of Agr. Chem., Ore. Agr. College, 706 N. 12th St. ....Corvallis, Ore.
Elliott, Bruce A. ....Manual Training Teacher...Hibbing, Minn.
Elliott, Ross W............Manual Training Teacher, Hibbing, Minn.
Fjerestad, Alman ....Elec. Engineer, Estelline
Gagel, Gerald...........................Electrician, Rialto, Cal.
Hofstetter, Geo. ....Instructor Manual Training, Govt. School, Box 487 ....Manila, P. I.
Kirk, John R. ....Farmer, Springfield
Johnson, Aaron G., Plant Pathologist, U. of Wis., 132 Lothrop St. ....Madison, Wis.
Knutson, Mabel (Trooien).....................Teacher, S. D. S. C.
McCordic, Clare, Machine Expert, 14 1-2 High St. W. ....Moose Jaw, Saskatchewan, Canada
McElmurry, Rilla (Eels).......Trussed Concrete Co., Detroit, Mich.
Morton, Grant J., Federal Drug Inspector, Federal Building ....Portland, Ore.
Reich, J. Carl...Western Elec. Co., 1700 Jackson Blvd., Chicago, Ill.
Salmon, Cecil........Agronomist, Kan. Agr. Col. ......Manhattan
Sanderson, Eugene, Electrician, 56 Woodward Ave., S. Norwalk, Conn.
Tuttle, Volney J., Gen. Elec. Co.,D. C. Eng. Dept., Schenectady, N. Y.
Underwood, Genevieve ....Teacher, Huron
Westcott, Ruth M. (Johnson)............132 Lothrop, Madison, Wis.
Work, Mary I............Stenographer, 3850 Indiana Ave., Chicago

PHARMACY GRADUATES.

Dexter, David F. .... Druggist, Canton
Roney, Ray W. ....Druggist, Chester
Ennis, Herbert I. ....Druggist, Volga
Kartrude, Inga M.......................Teacher, Hardwick, Minn.

Class of 1908.

MASTER OF SCIENCE.

Coller, Fred A. Physician and Surgeon, Mass. Gen. Hospital.. .... Boston, Mass.
Koch, Arthur E. .... Chemist, 374 Euclid Ave., Detroit, Mich.

ELECTRICAL ENGINEER.

Elliott, Ross W..................Manual Training, Hibbing, Minn.

BACHELOR OF SCIENCE.

Alton, Benjamin H., Physician, Parental School .... West Roxbury, Mass.
Bergeim, Olaf, Asst. in Chemistry, Jefferson Med. Col. .... Philadelphia, Penn.
Carpenter, Clarence A. ....Elec. Engineer, Rapid City
Chilcott, Ralph..............................Farmer, Vienna, Va.
Cooley, William R. .... Stockman, Springfield
Griffith, T. Edwin ....Farmer, Timmer, N. D.
Holsey, Ernest .... Elec. Eng., Spokane, Wash.
Hubbart, Edith J......................Asst. Librarian, S. D. S. C.
Hyde, Hallie W..............Instr. Dom. Sc., U. of Idaho, Moscow
Kelly, Amy ....Instr. Dom. Sc., U. of Idaho, Moscow
Kendall, Nellie G. ....Instructor in English, S. D. S. C.
Locke, Francis J., Elec. Eng., 513 Summer St., West Lynn, Mass.
Mathews, Oscar R.................Expert, Dry Land Agr., Newell
Mayland, Amy .... Died Feb. 17, 1909, at Lincoln, Neb.
Mayland, George R.........................Civil Engr., Brookings
Nelson, Aaron L.............Electrician, 401 W. 30th St., Erie, Pa.
Nilsson, Edward, Artist, Capital Engraving Co., 219 W. Edwards St. .... Springfield, Ill.
Olberg, Fred C..........................Druggist, Ballard, Wash.
Perry, William J. .... Elec. Eng., Corozol, Canal Zone
Soreng, Edward M., Prof. Electrical Engineering, Marquette Univ. ....198 15th St., Milwaukee, Wis.
Sperb, John J. ....Civil Engr., 815 Grand Ave. N., Portland, Ore.
Ulrich, Darwin William, Electrical Engineer, 2605 Cal. Ave. .... Seattle, Wash.
Underwood, Beatrice .... Watertown
Underwood, Loto (White)..Brooklyn Botanical Gardens........ .... Brooklyn, N. Y.

Weeks, Gordon A., Elec. Eng., 711 Post St., Hotel Robbins .... San Francisco, Cal.
West, Florence E. ....2220 Emerson Ave. S., Minneapolis, Minn.
Whitehead, Lindsey W., Instructor in Civil Eng., Mass. Inst. Technology .... Boston, Mass.
Williams, Ruby ...... Teacher, 557 S. Spring St., Los Angeles, Cal.

PHARMACY GRADUATES.

Murphy, James P. ....Druggist, Broadland
Hoch, Joseph L..............................Druggist, Scotland
Olberg, Fred C. .... Druggist, Ballard, Wash.
Quiggle, Ernest J. ....Pharmacist, Groton

Class of 1909.

MASTER OF SCIENCE.

Mathews, Oscar .... Expert Dry Land Agriculture, Newell

ELECTRICAL ENGINEER.

Elliott, Bruce .... Manual Training Teacher, Hibbing, Minn.

MECHANICAL ENGINEER.

Schaphorst, Wm., Technical Advertising, Woolworth Building .... New York City

BACHELOR OF SCIENCE.

Bacon, Eva (Paulson) .... Castlewood
Bushnell, Edna ....Instructor School of Agr., S. D. S. C.
Camp, Fred..............................Farmer, Winfred, Mont.
Catlett, Winifred................................Teacher, Lemmon
Champlin, Manley ....Ass't in Agronomy, S. D. S. C.
Clarke, Roy.......................Student, U. of C., Chicago, Ill.
Coughlin, Chas. .... Elec., Eng., 258 Milwaukee St., Milwaukee, Wis.
Denhart, Cecil .... Grain Dealer, White
Erwin, Ada, Student Columbia Univ., 1230 Amsterdam Ave. .... New York City
Evans, Iva ....Teacher, Geneseo, Ill.
Furnstahl, John........................Civil Engineer, Ajo, Ariz.
Jensen, Harvey .... Insurance, Fargo, N. D.
Jones, Robert ....Lawyer, 3857 2nd Ave., S. Minneapolis, Minn.
Kremer, Alvin........Bookkeeper, U. S. Nat'l Bank, Portland, Ore.
Lane, Lloyd .... Elec. Eng., 1440 W. 60th St., Seattle, Wash.
McKeown, Ralph .... Farmer, Sentinel Butte, N. D.
Marquis, Sidney, Elec. Eng., 590 68th Ave. West Allis.. Milwaukee, Wis.
Matheny, Chester, Elec. Eng., Gen. Elec. Co., Monadnock Bldg. .... Chicago, Ill.

Odland, John .... Farmer, Sentinel Butte, N. D.
Palm, Ellen .... Teacher, Norden
Peirce, Ruth .... Music Teacher, Brookings
Phillips, Geo .... Y. M. C. A. Sec., S. D. S. C., Brookings
Sarvis, Johnson .... Special Agent, Dept. of Agr., Ardmore
Sperb, Frank .... Civil Engr., 815 Grand Ave., Portland, Ore.
Swering, Joe .... Electrical Engr., Brookings
Treacy, Timothy, Theological Student, 487 Mich. Ave. N. E. .... Washington, D. C.
Vernlund, Carl, Med. Student Harvard Univ., 19 Bird St. .... Cambridge, Mass.
White, Orland, Botanist, Brooklyn Botanical Gardens, Brooklyn, N. Y.
Wickre, Jacob .... Farmer, Langford
Wright, Mary (Dutcher) .... 706 N. 12th St., Corvallis, Ore.

PHARMACY GRADUATES.

Abbott, Guy S. .... Druggist, Yale
Buck, Ervin .... Druggist, Wessington Springs
Crosby, LeRoy .... Pharmacist, Hitchcock
Dickey, James .... Druggist, Iroquois
Hage, Christian .... Druggist, Toronto
Wilson, Frank M. .... Druggist, Harlem, Mont.
Youngberg, Guy .... Asst. Chem., S. D. S. C.

Class of 1910.

MASTER OF SCIENCE.

Alton, Benjamin, Physician, Parental School, West Roxbury, Mass.
Dutcher, Adams, Prof. Agr. Chem., Oregon Agr. College, 706 N. 12th St. .... Corvallis, Ore.
Youngberg, Guy .... Asst. Chemistry, S. D. S. C.

MECHANICAL ENGINEER.

Hofstetter, George, Instr. in Manual Training, Govt. School, Box 487 .... Manila, P. I.

BACHELOR OF SCIENCE.

Atkinson, Fay .... Farmer, White
Barber, Floyd .... Civil Engineer, Rogers' Bldg., Vancouver, B. C.
Bigger, Howard H., Instructor in Agr. No. Nor. and Ind. School .... Aberdeen, S. D.
Crothers, Harold, Instructor in Elec. Eng., U. of Wis., 740 Langdon St. .... Madison, Wis.
Crothers, Ralph .... Farmer, Badger
Fickle, Walter .... Died Jan. 26, 1911, at Blunt
Fridley, Ray .... Manager Fridley's Garage, Brookings
Grotta, Edwin .... Implement Dealer, Esmond
Johnson, Charles .... Hardware Merchant, Hetland

Johnson, Milla (Anderson) .... New England, N. D.
Kartrude, Inga........................Teacher, Hardwick, Minn.
Kelly, T. B. .....Music Student, 324 E. 17th St., Minneapolis, Minn.
Lothrop, Elmer .... Elec. Engineer, Redfield
Lloyd, Robert, Elec. Contr., 1131 Van Nuys Bldg., Los Angeles, Cal.
Matheny, Allie (Wooledge) ....Minot, N. D.
Matheny, Fred.......Civil Engineer, 1731 13th Ave., Seattle, Wash.
Morrison, Joseph .... Agr. Expert, Ex. Substation, Highmore
Nagel, Herman .... Actor, 34 W. 58th St., New York City
Ort, A. A., Civil Engineer, 601 Western Union Bldg., Chicago, Ill.
Palm, Andrew..............County Agricultural Agent, Watertown
Sexauer, Elmer .... Grain, Brookings
Sheldon, Nettie (Atkinson) .... White, S. D.
Wahl, Walker W. .... Farmer, Columbia
Welch, Cecile.....................Acting Registrar, S. D. S. C.
Wohlheter, Verne .... Attorney, White
Yocom, Frank ....Automobile Expert, Pasadena, Cal.

PHARMACY GRADUATES.

Brown, Geo. B...............................Pharmacist, Clark
Goldthorp, George..............................Druggist, Conde
Morrison, Joseph........Agricultural Expert, Substation, Highmore
Williams, Arthur .... Pharmacist, Sturgis

Class of 1911.

MASTER OF SCIENCE.

Sarvis, Johnson..................Special Agt., Dept. Agr., Ardmore
White, Orland, Botanist, Brooklyn Botanical Gardens, Brooklyn, N. Y.

BACHELOR OF SCIENCE.

Balmat, John ...... Real Estate Dealer, 2614 Agnes St., K. C., Mo.
Catlett, Marguerite ....Brookings
Cooledge, Leslie......Instructor, Mich. Agr. College, Lansing, Mich.
Cottingham, Jay .... Lumberman, Mount Vernon
Erwin, Ruth .... Brookings
Finley, Vollmar .... Instr. in Agr., Redwood Falls, Minn.
Fridley, Bess (Fromme) .... Purdue University, Lafayette, Ind.
Fridley, Richard .... Died Aug. 23, 1912, at Lake Benton, Minn.
Fromme, Fred, Inst. in Botany, Purdue University, Lafayette, Ind.
Gropengieser, Fred .... Asst. Bank Cashier, Onida
Haas, Carrie .... Teacher, Arlington
Hallen, Harold....Elec. Engr., 313 Penwood Ave., Wilkinsburg, Penn.
Huntemer, Percy....................Instr. in Agr., Melrose, Minn.
Jarman, Mabelle .... Brookings
Johnson, Clifford..................Died September, 1912, at Huron
Knutson, Geneva (Flittie) .... Brookings
Ladd, Amy ....Student Physical Culture, Battle Creek, Mich.

Mathewson, Lynn, Mech. Engr., 5019 Calumet Ave., 2 Ap't. Chicago
McMillan, Orville .... Farmer, Alpena
Meharg, Max.............. Instr. Man. Training, Park City, Utah
Mitchell, Harry ...Elec. Engr. 2435 Gerard Ave., Minneapolis, Minn.
Odland, Ole M..................................Farmer, Hurley
Peterson, Helen .... Teacher, Stockholm
Plocker, Florence (Shelden) ....Goudyville, S. D.
Quinn, Roy ....Inst. in Agr., Atwater, Minn.
Randall, Frank ....Mech. Engr., Aberdeen
Sherwin, Muriel (Stoll) .... Brookings
Starring, Cecil, Horticulturist, Branch Exp. Station, Hood River, Ore.
Swenehart, John......................Instr. in Agr., Crandon, Wis.
Throop, Lotta (Odland) .... Sentinel Butte, N. D.
Tinker, Mable .... Brookings
Wilson, R. O............Registrar, Mont. Agr. Col., Bozeman, Mont.

PHARMACY GRADUATES.

Fellows, Carl .... Pharmacist, Plankinton
Martin, Earl S. .... Merchant, Bushnell
Serles, Earl.................................Student, S. D. S. C.
Shea, Henry ....Asst. in Chemistry, S. D. S. C.
Vis, Heyme .... Pharmacist, Stickney

Class of 1912.

BACHELOR OF SCIENCE.

Atwood, Geo. B. ....Veterinary Asst., S. D. S. C., Brookings
Bibby, Irwin J., Asst. in Dairying, Penn. State Col., State College
Bisbey, Guy R.....Botanist, Brooklyn Bot. Gardens, Brooklyn, N. Y.
Dachtler, Fred J. .... Farmer, Sturgis
Edson, Ray W...With Gen. Elec. Co., 77 Park St., West Lynn, Mass.
Erdmann, Henry E..........Deputy State Dairy Com'r., Brookings
Granger, Paul F., Civil Engineer, 1220 13th Ave. W. ....
.... Calgary, Alberta, Can.
Hathaway, Floyd C., Instructor in Agr. Man. Training School
....Ellendale, N. D.
Jensen, Russell C.....Asst. in Dairying, Univ. of Neb., Lincoln, Neb.
Kremer, Henrietta, Instr. in Science, Zion City H. S., 641 Carmel Bldg. .... Zion City, Ill.
Larson, John E..........Agriculture, Ore. Agr. Col., Corvallis, Ore.
Marchant, Guy R. ......Elec. Engr., 427 W. 24th St., New York City
Oakland, Irwin S. ....Manager Seed Co., Sioux Falls
Peck, Arthur R., Elec. Engr., 16 Campbell Ave., Schenectady, N. Y.
Pence, Clay, Elec. Salesman, 313 Penwood Ave...............
.... Wilkinsburg, Penn.
Reeve, John E., Elec. Engr., 16 Campbell Ave., Schenectady, N. Y.
Revell, Grace .... Instructor, S. D. S. C.

Sauder, William O., Forestry, Yale, 72 Lake Place............
.... New Haven, Conn.
Schaphorst, Ben, Law Student, 510 Catherine St., Ann Arbor, Mich.
Skinner, Lila, Instr. in Home Economics, Univ. of O., Columbus, O.
Sparks, Henry..........................Civ. Engr., Sturgis, S. D.
Stearns, Arthur J.......Elec. Engr., 777 6th St., Edmonton, Alberta
Welker, Verne E. .... Elec. Engr., Redfield

PHARMACY GRADUATES.

Bacon, Harry .... Pharmacist .... Hill City
Christianson, Helen .. Druggist .... Bruce
Clark, Robt. W........ Druggist .... Sisseton
Farnham, Beatrice ... Druggist .... Waubay
Farrar, Vere .... Pharmacist .... Langford
Grant, Clyde .... Pharmacist .... Kasson, Minn.
Holstrom, Will ...... Pharmacist .... Huron
Holleman, William ... Pharmacist .... Springfield
Leavitt, Ethel .... Pharmacist .... Milbank
Morton, Richard ..... Pharmacist .... New Effington
Serles, Raymond ..... Pharmacist .... Salem

Class of 1913.

BACHELOR OF SCIENCE.

Basgen, Fred .... Mechanical Engineer......Chisholm, Minn.
Binnewies, Edward R. Asst. in Chem. ....S. D. S. C.
Brigham, Ruth .... Brinklow, Md.
Cole, Glenn H......... Farmer .... Gary
Dunn, Everett W..... Civil Engineering .... Eldora, Ia.
Engstrom, Carl ...... Electrical Engineering .... Redfield
Faulkner, Hugh ...... Farmer .... Burkmere
Fowlds, Matthew .... Asst. Entomologist .... S. D. S. C.
Freiberg, George ..... Stu. U. of Mo., 506 S. 5th St., Columbia
Greenly, Maurice G... Sci. Teacher, Mills School, Honolulu, Hawaii
Gurslee, Chris B...... Instr. in Agr. .... Detroit, Minn.
Heiser, Agnes K....... Teacher .... Hecla
Huyck, Nina B....... Teacher Dom. Science ...... Wayne, Neb.
King, Stanley .... Civil Engineer .... Watertown
Kremer, Ralph C..... Instr. in Agriculture ...... Jordan, Minn.
Landweer, Earl ...... Elec. Engineer .... De Smet
McHugh, Frank James. Farmer .... Aberdeen
Matheny, Hazel A.... .... Conde
Morrow, Strayer .....Instr. Dom. Science............Olivia, Minn.
Morrison, Guy E.....Instr. Farmers' Institute..............Elbon
Nilsson, Anna C......Teacher .... Gary
Nord, Roy A.........Law Student, 510 E. Catharine St.......
.......................Ann Arbor, Mich.
Olson, Thos. G........Elec. Eng., Rebecca St....Wilkinsburg, Pa.

Pier, Clarence L.	Dairy Inspector	Brookings
Rilling, Harry M.	Salesman	Brookings
Sanderson, Harry M.	Farmer	Estelline
Shanley, Clarence	Asst. in Dairying	S. D. S. C.
Shea, Henry M.	Asst. in Chem.	S. D. S. C.
Shepard, Helen	Teacher	Estelline
Sloan, Edith	Instr. Dom. Science	Falls City, Neb.
Somers, Grace	Instr. and Student	S. D. S. C.
Sponholz, Lydia	Teacher	Wentworth
Templeton, Mabel (Johnson)		Hetland
Wood, Ruth A.	Instr. School of Agrl.	S. D. S. C.

PHARMACY GRADUATES.

Eidsmoe, Clark T.	Pharmacist	Arlington
Johnson, Arthur F.	Pharmacist	Springfield, Minn.
Lawler, Frank M.	Pharmacist	Watertown
Null, Ralph L.	Pharmacist	Miller
Simpson, Wm. R.	Pharmacist	Flandreau
Soule, Roy H.	Pharmacist	Brookings
Tommeraaseu, Corne.	Pharmacist	Madison
Wornson, Walter A.	Student	S. D. S. C.

Graduate Students

Binnewies, Edward	Brookings
Catlett, Winifred	Brookings
Champlin, Manley	Brookings
Fowlds, Matthew	Arco, Minn.
Johnson, Palmer	Lakefield, Minn.
Miller, Mrs. Krete	Brookings
Oakland, Irwin	Corsica
Shea, Henry	Brookings
Stoll, Mrs. A. H	Brookings
Shanley, Clarence	Mansfield
Youngberg, Guy	Brookings

COLLEGIATE STUDENTS.

SENIORS.

Armstrong, Lillian	Brookings
Armstrong, Inez	Brookings
Ausman, Leslie	**Wessington Springs**
Britzius, Arno	Aberdeen
Bushey, Alfred	Castlewood
Casley, Lulu	Brookings
Chappell, Vincent	Brookings
Clifford, Perry	Cresbard
Dulitz, Helen	Webster
Elliott, Robert	Rochester, Minn.
Gilbertson, George	Bryant
Gotthold, Roy	Brookings
Grinols, Hazel	Brookings
Gropengieser, Bessie	Onida
Halladay, Clinton	Iroquois
Hartgering, Frances	Rapid City
Hegdahl, Paul	Madison
Heck, Emil	Brookings
Hofstetter, Clarence	Mitchell
Knutson,, Charles	Canby, Minn.
Legler, Edward	Redfield
Luebke, Esther	Castlewood
Persun, F. J. E	Mildred, Pa.
Sexauer, Laura	Brookings
Shepard, Albert	Brookings
Slightam, Kate	Brookings
Sherwood, Reginald	DeSmet

Sloan, Sam	Brookings
Somers, Ruth	Brookings
Valentine, Vey	White
White, Henry	Delmont
Wilkins, Scott	Mitchell
Wills, Ernest	Brookings
Wood, Nina	Brookings

JUNIORS.

Bolland, Jens	Pierpont
Caldwell, Lacey	Brookings
Caldwell, Florence	Brookings
Chapman, Daphne	Alexandria
Clark, Bruce	Brookings
Cooley, Hazel	Garretson
Culhane, James	Brookings
Culhane, Alexander	Brookings
Drury, Lillian	Chamberlain
Freeman, John	Lead
Gardner, Harry	Sturgis
Gilbert, Gladys	Brookings
Gold, Milton	Big Stone City
Graham, Wm. B	Freeport, Minn.
Hale, Ruth	Carrington, N. D.
Iverson, Carrold	Brookings
Johnson, C. J	Brookings
Jones, Patti	Whitewood
Keck, Dallas	Brookings
Kornder, Howard	Armour
Kremer, Frank	Brookings
Lanphier, Ira	Brookings
Lynch, Arthur	Brookings
McRoberts, Neara	Hot Springs
Nixon, Jessie	St. Paris, O.
Nord, Florence	Brookings
Pilmer, Miller	Brookings
Potter, Ernest	Athens, Pa.
Pratt, Vern	Elkton
Serles, Earl	Salem

SOPHOMORES.

Armstrong, Gladys	Brookings
Abbott, Cleveland	Watertown
Alexander, D. K	Delmont
Allison, Arthur	Rapid City
Anderson, Georgia	Rapid City
Austin, Ethel	Brookings
Avery, Blanche	Alexandria

Barton, Harold G	Centerville
Bergeim, Joseph	Brookings
Caldwell, Kate	Brookings
Calkins, Fred	Miller
Daniels, Lloyd	Aberdeen
Dawes, Adelia	Fulton
Dott, Delia	Salem
Drayer, Raymond	Frankfort
Elfrink, Evelyn	Selby
Eng, Julius	Flandreau
Engelcke, Emma	Canistota
Evers, Clarence	Big Stone City
Fish, Warren D	Ipswich
Fridley, Harry	Brookings
Fryer, Julia	Doland
Gold, Ralph	Big Stone City
Greene, Bernice	Parker
Greeves, Bertha	Miller
Grudem, William	Brookings
Hanten, Matt	Watertown
Heiser, Marie	White
Holliday, Lloyd	Brookings
Horsfall, Hazel	Flandreau
Horsfall, Helen	Flandreau
Horton, Harrison D	Linden
Humphrey, Francis	Howard
Jennings, Hollace	Estelline
Jensen, Frank	Mitchell
Johnston, Ralph	Rapid City
Kadinger, Lewis	Hartford
Kennard, George	Brookings
Knutson, Robert	Brookings
Lanphier, Eva	Brookings
Laxson, Leroy	Canton
Lynch, Edward	Brookings
Lynch, Ruth	Brookings
McDougall, Tyrell	Britton
Meharg, Mabel	Gooding, Idaho
Miller, Harold	Brookings
Morgan, Della	Armour
Myers, George	Redfield
Nelson, Lewis	Oldham
Peterson, Harold	Sioux Falls
Phelps, Hazel	Watertown
Ray, Winifred	Brookings
Rishoi, Alfred	White
Rowe, Nellie	Sioux Falls
Ryger, Margarette	Brookings

Scotchbrook, Carl	Wessington
Scotchbrook, Frances	Wessington
Shaw, Albert J	Miller
Sheehan, Bernard F	Aberdeen
Sivertson, Anna	Pierpont
Slaymaker, Elizabeth	Brookings
Sloan, Janet	Brookings
Smith, Inez	Waubay
Warner, Harry	DeSmet
Weber, George	Farmer
Wing, Lesher	Aladdin, Wyoming
Wix, Alys	Arlington
Wood, Ben	Spearfish

FRESHMEN.

Abbott, Walter	Tyndall
Ainsworth, Ernest	Brookings
Ashbaugh, Virgil	Brookings
Beals, Mamie	Brookings
Bennett, L. L	Canton
Blakeley, Wesley	Brookings
Browning, Lenore	Brookings
Browning, Ruth	Brookings
Briggs, Cyrus	Brookings
Callahan, Lester	Brookings
Campbell, Mattie	Brookings
Chappell, Mabel	Brookings
Colliton, Ora	Elkton
Cook, Orlan P	Clear Lake
Cremer, Frank	Parkston
Cunningham, Ray	Conde
Dakin, Norman	Brookings
Digre, Martin	Hendricks
Dokter, Garrett	Andover
Dougan, Lynn	Plankinton
Dunn, Arthur	Plankinton
Eidsmoe, Marble	Beresford
Elsom, David	Britton
Emerson, William	Castlewood
Giannonatti, Elene	Brookings
Gerner, Agnes	Platte
Glennon, Daniel C	Huron
Gullick, Blanche	Brookings
Haag, Oscar	Frankfort
Hammer, Amy	Volga
Hanson, Otto W. H	Brookings
Harris, George	Rockwell, Iowa
Harvey, Howard	Pierre

Haugen, Ben	Hartford
Hemingway, Charles E	Mattoon, Wis.
Hill, Joe	Mitchell
Hinners, Ruth	Wessington Springs
Holliday, Faye	Brookings
Holmes, Walter	Brookings
Holmes, Clara	Brookings
Johnson, Ralph J	Hetland
Johnson, Myrtle	Brookings
Jones, Horace	Mitchell
Katelle, Hubert	Osakis, Minn.
Keating, Pearl	DeSmet
Kopperud, Harmon	Lake Preston
Langdon, Hazel	Clear Lake
Lawler, Joe	Miller
Lee, Vera	Brookings
Lenocker, Paul	Brookings
Little, David	Wagner
Little, Guy	Wagner
Lothrop, Orlin	Academy
Lovald, Laura	Midland
McCoy, Dell	Miller
McFarlane, Marjory	Brookings
McKee, Linn	Aberdeen
Malone, Robert	Huron
Markey, Harold	Huron
Mathiesen, Homer	Watertown
Matson, Walter	Lake Preston
Mattes, Ben	Redfield
Mears, Hazel	Brookings
Meikle, Beulah	Mitchell
Mills, Oscar	Wall
Mills, Omer	Wall
Mitchell, Arthur	Brookings
Moe, Anna	Canton
Murray, Coletta	Fon du Lac, Wis.
Nagel, Wilhelm	Berlin, Germany
Nelson, Gladys	Brookings
Niebuhr, Margretta	Waubay
Nord, Daisy	Brookings
Olson, Lee	Brookings
Olson, Edward	Alcester
Paterson, David	Lake Preston
Peterson, Orvis	Brookings
Peterson, Axel	Sioux Falls
Pope, Donald	Estelline
Prunty, Glen	Hartford
Puhr, Edward	Bushnell

Rasmussen, Claude	Bridgewater
Rice, Harold	Flandreau
Riddle, Eugene	Waubay
Riis, Jens	Sindberg, Denmark
Ronning, Selma	Brookings
Rudd, Charles	Orient
Sanson, Freda	Buffalo Gap
Scholten, William K	Edgerton
Schwartz, Roy	Selby
Severson, Florence	Brookings
Sherwood, Aubrey	DeSmet
Skinner, Margaret	Brookings
Smith, Harry	Miller
Smythe, Gertrude	Brookings
Soule, Ruth	Brookings
Stacy, Nellie	Laurens
Stevens, Leo J	Sioux City, Ia.
Styer, Clarence	Huron
Swanson, Charles L	Highmore
Swenehart, Millie	Brookings
Swift, Eugene	Brookings
Shaw, Happy	Madison
Stoddart, Mattie	Brookings
Thomas, Cornelius	Marion
Thornby, Mary	Deadwood
Turner, Frank	Faulkton
Wagner, Colman	Selby
Wattson, Donald	Chamberlain
Westgate, Louis	Adrian, Mich.
Wendelken, Harry	Elkton
Winright, George	Alexandria
Wix, Elsie	Arlington
Ziegler, Arline	Brookings

SPECIALS.

Anderson, Eldon	Pierre
Bogstie, Emma	Brookings
Breed, Lillian	Brookings
Cooley, Corbin	Tabor
Crawford, William	Rochester, Minn.
Cruson, Fern	Duncan
Doughty, W. E	White
Fishback, Mrs. Van Dusen	Brookings
Froke, Elmer	Vienna
Greeves, Earl	Miller
Hedge, Mrs. Minnie	Brookings
Heiser, Elizabeth	White
Karlstad, C. H	Dempster

Knox, Frank	Brookings
Lipp, Mrs.	Brookings
Miller, Mrs. Mary L.	Brookings
Mills, Fern	Wall
McNeill, Margretta	Brookings
Opstedahl, Henrietta	Sherman
Peterson, Leigh	Watertown
Rogers, Mrs. R. C.	Brookings
Sayre, Mrs. Harry	Brookings
Selix, Sheridan	Brookings
Sloan, Lyle	Alexandria
Smith, Clara	Lennox
Tetlie, David	Canton
Waters, Elizabeth	Madison
Weber, Anna	Farmer
Wornson, Walter	Brookings

PREPARATORY STUDENTS.

Third Year.

Atwater, Emery	Redfield
Alrick, Lillia	Brookings
Beals, Edna	Brookings
Borst, Wayland	Brookings
Bradley, Victor	Watertown
Bucholz, Rudolph	Brookings
Bucholz, Adolph	Brookings
Chenoweth, Orda	Wolsey
Coughlin, Thomas	Carthage
Dutt, Earling	Beulah, Wyoming
Earl, Lois	Erwin
Farries, Florence	Hitchcock
Faulkner, George	Burkmere
French, Martin	Colman
Gusler, Glenn	Winner
Hoy, Louise	La Delle
Johnson, Esther	Brookings
Lanphier, Harriett	Brookings
Mitchell, Samuel	Watertown
Morrow, Quincy	Brookings
Nichols, Seth	Redfield
Prentice, Jennie	Brookings
Rilling, Elsie	Brookings
Shepard, James	Brookings
Spawn, Elmo C.	Chester
West, Ethel	Brookings
Wood, Milton	Brookings

Second Year.

Brill, Vernal	Lemmon
Berg, Arnold	Stockholm
Drees, Bertha	Timber Lake
Eaton, Simon	Miller
Farries, Russell	Hitchcock
Gloeckler, William	Menno
Green, Carroll	Brookings
Hasle, Arthur	Brookings
Heck, Theodore	Brookings
Hoff, Conrad	Brookings
Neal, Frank	Aurora
Nusbaum, Fern	Pulaski, Iowa
Rodne, Selma	Hitchcock
Rovang, Amy	Corson
Rude, Florence	Brookings
Sas, Rudolph	St. Paul, Minn.
Schultz, Lydia	Brookings
Smith, Clarence	Henry
Werner, Anna	Lake Preston
Wilson, Madge	Brookings
Wilson, Edith	Brookings
Woodruff, Lewis	Wessington

First Year.

Beals, Daniel	Brookings
Biggar, Ellen	Brookings
Bortness, Clarence	Brookings
Brown, Alma	Springfield
Buzick, Coral	Twin Brooks
Chenoweth, Sam J	Wolsey
Cooley, Haldon J	Garretson
Duennermann, Edward	Smithwick
Ellingsen, John	Platte
Francis, Ada	Mound City
Frandsen, Josephine	Fort Pierre
Gilbert, Arthur E	Buffalo
Holscher, Henry	Wecota
Hanson, Eva	Brookings
Keyes, Donald	Henry
Loriks, Emma	Arlington
Halvorsen, Hannah	Ramona
Nelson, Esther	Worthing
Newton, Helen	Bridgewater
Ondell, Manoah	Conde
Oyloe, Gerhart	Brookings
Pease, Eva	Brookings

Reese, Floryan	Waubay
Smith, Charles	Brookings
Stangland, Elmer	Brookings
Steuerwald, Paul	Wolsey
Schriever, Albert	Onida
Thelin, Arthur	Sioux Falls
Van Lanningham, Thomas	Brookings
Wolber, Oscar	Brookings

MUSIC STUDENTS.

Armstrong, Gladys	Piano	Brookings
Ainsworth, Ernest	Trombone	Brookings
Alrick, Lillia	Piano & Theory	Brookings
Brill, Vernal	Voice	Lemmon
Buzick, Coral	Piano	Twin Brooks
Brenneman, Howard	Clarinet	Wessington Springs
Biermann, Christ	Clarinet	Mansfield
Bogstie, Emma	Piano & Theory	Brookings
Brown, Alma	Piano & Theory	Springfield
Chapman, Daphne	Voice	Alexandria
Carothers, John	Violin	Clear Lake
Campbell, Margaret	Voice	Pierre
Casley, Lulu	Voice	Brookings
Crouch, Aaron B.	Voice	Fedora
Dvorak, Frank	Violin	Redfield
Deville, Rosa	Piano	Watertown
Drees, Bertha	Piano	Timber Lake
Earl, Lois	Piano	Erwin
Fryer, Julia	Piano	Doland
Frandsen, Josephine	Piano	Fort Pierre
Fjeld, Eugene	Cornet	Northfield
Fuerstenau, Wesley	Trombone	White
Farries, Florence	Voice	Hitchcock
Farries, Russell	Voice	Hitchcock
Gross, Myrtle	Voice	Madison
Gilgore, Harold	Violin	Esmond
Green, Ethan	Violin	Lake Preston
Groff, Mabel	Voice	Brookings
Gloeckler, William	Violin	Menno
Green, Carroll	Piano & Theory	Brookings
Green, Roger	Trombone	Lake Preston
Graves, C. L.	Clarinet	Ashton
Greguson, Helmer	Voice	Inwood
Halverson, Henry	Violin	Ramona
Halverson, Hannah	Piano	Ramona
Hinners, Ruth	Piano	Wessington Springs

Heirigs, Wendell	Violin	Viborg
Haugen, Ben	Violin	Hartford
Hoy, Lee	Voice	Clear Lake
Hoy, Louise	Piano	LaDelle
Hammer, Amy	Piano & Theory	Volga
Jones, Horace	Violin	Mitchell
Jones, Charles	Piano	Kirley
Johnson, Esther	Piano & Theory	Brookings
Johnson, Ralph J.	Flute	Hetland
Kasten, Alfred	Cornet	Humboldt
Keating, Pearl	Piano	DeSmet
Kopperud, Harmon	Clarinet	Lake Preston
LaPlant, Lucille	Piano & Voice	Cheyenne
Loriks, Emma	Piano	Arlington
Larson, Lloyd	Voice	Warner
Luebke, Esther	Voice	Castlewood
Lloyd, J. F.	Voice & Piano	
Moyle, Edwin	Voice	Westport
Mueller, Oscar	Cornet	Madison
Meikle, Beulah	Piano	Mitchell
Mitchell, Samuel	Piano	Watertown
McFarlane, Marjory	Violin	Brookings
Noggle, Julia	Voice, Piano & Theory	Sioux Falls
Neal, Frank	Violin	Aurora
Nelson, Esther	Piano & Theory	Worthing
Nusbaum, Fern	Piano & Theory	Pulaski, Iowa
Olson, O. V.	Voice	Huron
Oyloe, Gerhart	Voice & Theory	Brookings
Paulson, Joseph	Voice	Brandt
Perso, Ruth	Piano	Brookings
Putzke, Clarence	Violin	Humboldt
Ritcher, Oscar	Voice	Madison
Reese, Floryan	Violin	Waubay
Sanderson, Abbie	Piano	Brookings
Sutherland, Inglis	Violin	Thomas
Somers, Grace	Voice	Brookings
Sueltz, Arthur	Violin	Groton
Smedsrud, Emilia	Piano, Voice & Theory	Russell, Minn.
Smith, Henrietta	Violin & Theory	Lennox
Smith, Clara	Piano & Theory	Lennox
Schultz, Lydia	Piano & Theory	Brookings
Steuerwald, Paul	Piano	Wolsey
Thorstensen, Hilma	Piano	Irene
Thelin, Arthur	Violin	Sioux Falls
Thornby, Mary	Voice	Deadwood
Wagner, Colman	Violin	Selby
Willett, George	Cornet	Tulare

Valentine, Vey	Voice	White
Wolverton, Don	Violin	Doland
Weber, Anna	Piano, Voice & Theory	Farmer
Westgate, Louis	Piano	Adrian, Mich.
Werner, Anna	Piano	Lake Preston
West, Ethel	Piano & Theory	Brookings
Woodruff, Lewis	Voice	Wessington
Wolff, Otto	Voice & Horn	Parker
Youngberg, Mamie	Piano, Voice & Theory	Brookings

SCHOOL OF AGRICULTURE—STUDENTS.

Third Year.

Aasen, Julius	Renner
Amsden, Bruce	Groton
Andreessen, Henry	Tea
Boekelheide, H. H	Northville
Cruson, James	Duncan
Deville, Rosa	Watertown
Dutton, Frank	Hardingrove
Fee, Howard	Cherokee
Fuerstenau, Wesley	White
Gilgore, Harold	Esmond
Gregg, Clark	Hartford
Griffith, Harold	Cresbard
Gross, Myrtle	Madison
Hattlestad, Melvin	Garretson
Haugen, George	Dell Rapids
Johnson, Conrad	Salem
Johnson, Arvid	Strandburg
Keeler, Earl J	Frederick
Linn, Elmer	Elm Springs
Loriks, Emma	Arlington
Lynn, Floyd	Wolsey
McFadden, Edgar	Huron
McKee, Inez	Wagner
Nelson, Robert	Armour
Olson, O. V	Huron
Petry, Tom	Hawarden, Iowa
Putzke, Clarence	Humboldt
Schrader, Gus	Lake Preston
Schmidt, Emma	Alpena
Sedgwick, Caro	Crow Lake
Shook, Mabel	Kyle
Sutherland, Inglis	Thomas
Spear, Kenneth	Draper
Stitt, Vernon P	Hitchcock
Willett, George	Tulare
Wolff, Otto	Parker

Second Year.

Allinson, Earl	Gary
Anderson, Edna	DeSmet
Arp, Carl	Chamberlain
Berry, Earl	Delmont
Biermann, Christ	Mansfield
Bower, Ralph	Correctionville, Iowa
Gigg, Lucille	McClure
Glidden, Walter	Millboro
Graves, C. L	Ashton
Greguson, Helmer	Inwood
Griffith, Gar	Cresbard
Halgerson, Ralph	Canistota
Halverson, Hilda	Kenneth, Minn.
Heirigs, Wendell	Viborg
Hinsvark, Melvin	Brandt
Horsley, Alta	Virgil
Holtquist, Alder E	Milbank
Holt, Raymond	Clear Lake
Holley, Max	Dempster
Horen, Clarence	Cresbard
Howell, Everett	Florence
Jensen, Chester	Oldham
Johnson, Gladys	Doland
Keck, Myrtle	Brookings
Kasten, Alfred	Humboldt
Keck, Marvin	Brookings
Kieser, H. W	Wessington Springs
Klungness, Tilda	Garretson
Kvalshaug, Fred	Centerville
Larson, Lloyd	Warner
Lindsey, Grace	Brookings
Morris, Wesley	Brookings
Mueller, Oscar	Madison
Mueller, Robert	Madison
Nelson, Alfred	Sisseton
Onstine, Everett	Flandreau
Payne, Foster	Forbes, N. D.
Petry, Anna	Hawarden, Ia.
Pirlet, Harry	Lake Preston
Peterson, Lawrence	Virgil
Prunty, Francis	Andover
Slade, Allan	Fulton
Sloan, James	Brookings
Sloat, Roy H	Lowry
Sloat, Ben	Lowry
Smith, Maurice	Henry
Spear, Mary	Draper

Reese, Gertrude	Wessington Springs
Sullivan, William	Montrose
Svien, Helmer	Wallace
Swanson, Elmer	Hawarden
Thompson, Liza	Letcher
Twidwell, Mabel	Brookings
Van Allen, Arthur	Gayville
Wallace, Percy	Britton
Wallace, Henry F	Britton
Wallace, Norman	Britton
Witzel, Ray	Artesian
Witzel, Roy	Artesian
Wilcox, Mae	Brookings
Wilcox, Samuel	Brookings

First Year.

Aasby, Louis	Holabird
Amsden, George	Groton
Andreessen, Cornelius	Tea
Anderson, Ida	Tulare
Bakke, Elmer	Webster
Bayley, Cheston	Mitchell
Belk, Vernon	Henry
Bender, E. F	Menno
Benson, Roy	Renner
Berg, Harry	Stockholm
Best, Charles M	Esmond
Bishop, Julius	Montrose
Bisgard, Elmer	Waubay
Bjerke, Elmer	Andover
Boddener, Fauss	
Boice, Norris	South Shore
Breland, Burton	Mt. Vernon
Brenneman, Howard	Wessington
Brose, Arthur	Arlington
Brown, Roy	Yankton
Bury, Nicholas	Holmquist
Carothers, John	Clear Lake
Carley, Robert	Doland
Chrisler, Kenneth	Harrisburg
Crisman, Leo	Armour
Coye, Floyd	Kadoka
Coyne, William	Ethan
Dawson, Roy	Canistota
Doner, David	Gorman
Dvorak, Frank	Redfield
Englund, Oscar	Strandburg
Eaton, Simon	Miller

Evans, Clara	Clear Lake
Fredrichsen, Ernest	Loyalton
Frederichsen, Martin	Big Stone
Gilkerson, Nathan	Armour
Goodwin, John	Yankton
Green, Roger	Lake Preston
Green, Ethan	Lake Preston
Griffin, Phillip	Mohler
Halverson, Alma	Kenneth, Minn.
Hattlestad, Laura	Garretson
Hawes, Hazel	Toronto
Hinderaker, Irvin	Astoria
Heidenreich, Arthur	Mansfield
Hoy, Lee	Clear Lake
Hruska, Tillie	Virgil
Hurlburt, Roy	
Iverson, Bertha	Toronto
Jacobson, Adolph	Hudson
Janssen, George	Castlewood
Jencks, Arden	Bancroft
Jones, Charles	Kirley
Johnson, Julia	Waubay
Kilian, Ward V	Vilas
Johnson, Hartwick	
Kingsbury, Eugene	Cottonwood
Kirkwood, Elizabeth	Rollinsdale, Minn.
Kirkwood, Ray	Rollinsdale, Minn.
Knudson, Victor	DeSmet
Knudson, Anna	DeSmet
Koch, Webb	Duncan
Kustes, George	Mt. Vernon
Lee, Clarence	Lily
Legg, C. E.	Artesian
Lindgren, Elsie	Florence
McFarlane, Marjory	Brookings
McCann, James	LaDelle
McFadden, James	Huron
McMahon, Russell	Bruce
Marlow, Charles H	Houghton
Mears, Max	Brookings
Meiers, George	Avon
Merkle, Florence	Plankinton
Michel, Edward	Springfield
Moen, Lewis	Effington
Moyle, Edwin	Westport
Mueller, Laura	Madison
Nelson, William	Canton
Nelson, Adolph	Canton

Nelson, Ole	Inwood
Newton, Helen	Bridgewater
Novotny, Charles	Tabor
Nord, Alfred	Milbank
Otto, Irving	Chamberlain
Paulson, Oscar	Brandt
Paulson, Joseph	Brandt
Payne, Benjamin	Forbes, N. D.
Payne, Foster	Forbes, N. D.
Peck, Carl	Belle Fourche
Peterson, P. D	Virgil
Peterson, William	Lily
Peterson, Philip	Brookings
Peterson, Joseph	Centerville
Perso, Ruth E	Brookings
Peterson, Royal	Akron, Ia
Powers, Harry	Delmont
Preston, W. H	Hitchcock
Rezac, Albina	Tabor
Ramsdell, Lester	Flandreau
Reinecke, Raymond	Redfield
Richter, Oscar	Madison
Roi, Arthur G	Canton
Rollag, Olaf	Booge
Rusten, Philip	Beresford
Rude, Grant	Brookings
Ruppel, Frank	Alpena
Sanson, Adolph	Buffalo Gap
Schnittger, Edward	Mansfield
Scott, Lester	Clark
Seaver, Lloyd	Garden City
Sloan, Lester	Brookings
Sloat, Judd	Lowry
Smith, Joseph	Sioux Falls
Sorenson, Hans	Erwin
Stenson, Stenie	Fulton
Sueltz, Arthur	Groton
Thompson, Thomas	Mission Hill
Thompson, Barthol	Mission Hill
Tyler, Arthur	Renner
Tschetter, Peter	Freeman
Vearrier, Maude	Virgil
Vehe, Leroy	Bristol
Vig, Thorval	Veblen
Williams, Arthur	Sioux Falls
Westgard, Hannah	Astoria
Williams, Robert	Onida
Wiswall, Fred	Clear Lake

Wolf, Marie	Esmond
Wolverton, Don	Doland
Wright, George	Valley Springs
Zimprich, John	Grover

SHORT COURSES.

Five Month Steam Engineers.

Amundson, Peder	Irene
Bakke, Elmer	Webster
Buus, Soren	Wagner
Blomster, James	Mina
Blomster, Lewis E	Mina
Crouch, Aaron B	Fedora
Ericson, Charles	Centerville
Emly, Andy Joseph	Pekin, Ind.
Fordahl, Gustave	Sisseton
Foley, James	Springfield
Forsberg, Adolph	Canova
Gilbertson, Carl	Toronto
Halverson, Henry	Ramona
Hanse, Hilmer	Webster
Hasz, Emanuel	Parkston
Heberer, Edward	Aberdeen
Huppler, Wallace	Florence
Herr, Edward	Butler
Hoff, Conrad	Brookings
Howe, Louis	Montrose
Jung, Edwin	Madison
Johnson, Walter G	Wessington Springs
Lee, John G	Utica
Lundgren, Victor	Vermillion
Lokken, Oscar	Irene
Loftas, Toby	Colton
Moen, Hardy	Effington
Paterson, Louie	Beresford
Odland, Victor	Meckling
Peterson, Aylmer	Akron, Ia.
Prestegard, Clarence	Groton
Smidt, Frands	Freeman
Storm, Charles	St. Louis, Mo.
Sutter, Lawrence	Hitchcock
Tolton, Roy E	Fort Pierre
Ulstad, Sibert	Appleton, Minn.
Vearrier, John E	Virgil
Westin, Carl	Holmquist

THREE MONTH CREAMERY STUDENTS.

Arpan, Arthur	St. Onge
Abeel, Charles W	Alcester
Barth, Clifford	Mitchell
Best, D. E	Esmond
Berdahl, Ole	Colton
Brookens, Oscar	Parker
Brown, Ed.	Springfield
Danchenko, Farris	Clayton, Wis.
Digre, Anton P	Hendricks
Emly, Moses P	Pekin, Indiana
Foley, James	Spearfish
Frimoth, Elmer	Tyler, Minn.
Hood, Leigh	Groton
Hood, Kirk	Spearfish
Jordahl, Erling	Mount Vernon
Kanstrup, Andrew W	Elkton
Larson, Christ	Buffalo
Larsen, Alfred	Spearfish
Mead, C. C	St. Onge
Miller, Fletcher B	Highmore
Morris, Sidney	Fedora
Newkirk, Cecil P	Newell
Ommodt, Charley	Waubun, Minn.
Peterson, Charles	Vienna
Rud, G. A	Effington
Ronning, Olai	Hendricks
Ronning, Oscar	Hendricks
Seltzer, Noel	Lakefield, Minn.
Sanden, Adolph	Houston, Minn.
Svien, Helmer	Wallace
Thompson, Ludwig	Waubun, Minn.
Thomson, John	Belle Fourche
Vig, Thorvald	Vig
Vejrup, Nels	Britton
Waring, W. R	Sioux Falls
Wood, Clarence W	Flandreau

Three Month Home Economics Students.

Anderson, Gladys	Hayti
Anderson, Olga	Tulare
Boehmer, Marguerite	Fulton
Brockmueller, Anna	Volin
Brende, Guida	Baltic
Brende, Gerda	Baltic
Christensen, Mary	Freeman
Frandsen, Josephine	Fort Pierre

Fenn, Florence	Brookings
Freeburg, Myrtle	Hitchcock
Hanson, Effie	Hayti
Kolstad, Josie	Brookings
Opstedahl, Henrietta	Sherman
Palmer, Hazel	Hetland
Stenson, Minnie	Fulton
Smidt, Latta	Freeman
Stemler, Maude	Letcher
Shottenkirk, Ethel	Plankinton
Sanderson, Abbie	Brookings
Thorstensen, Hilma	Irene
Wood, Celia	Flandreau
Weiss, Alma	Arlington
Iverson, Matilda	Toronto
Niva, Mabel	Whitewood

Two Weeks Course in Agriculture.

Anderson, Albert
Anderson, Joseph
Bement, H. H
Bliss, M. H
Brown, Ed.
Christianson, Albert
Christopherson, Alfred
Cooper, Jefferson
Crevier, William
Englund, E
Faris, A
Fischback, Joseph
Flatten, Colman
Frederick, Clarence
Fridley, Len J
Horsted, M
Idso, B
Iverson, Alvin
Johnson, Maurice
Larsen, Elmer
Lande, H. L
McKay, R. J
Midgard, L. R
Muser, Jay
Pease, C. L
Pease, S. E
Pruessing, E. J
Raad, Adolph
Range, E
Renass, Harry

Severson, Sever	
Stevens, Carl	
Wells, Roy	
Zamow, W. A. L	

SUMMER SCHOOL STUDENTS.

Ammons, Ruth	Aurora
Arthur, Grace	Brookings
Arthur, Shirley	Brookings
Arvidson, Mae	Bruce
Bacon, Grace	Brookings
Bacon, Mabel	Brookings
Bagley, Frances	Brookings
Bane, Harriett	Aurora
Bane, Mae	Aurora
Bennett, Mary	Arlington
Bergersen, Pauline	Lake Preston
Blecker, Anna	Toronto
Brictson, Charmian	Brookings
Brictson, Thelma	Brookings
Buck, Florence	Bruce
Bulger, J. W	White
Callahan, Mabel	Brookings
Campbell, Mattie	Brookings
Carlson, Esther	Arlington
Casserly, Sadie	Elkton
Christianson, Ida	Volga
Christensen, Minnie	Lake Preston
Connelly, Alice	Elkton
Copping, Edna	Bushnell
Crowley, Maurine	Brookings
Cunningham, Beulah	Brookings
Davis, Clara	Brookings
Davis, Guy	Brookings
Donaldson, Frances	Brookings
Eberlein, Clara	Aurora
Ekse, Josephine	Hendricks, Minn.
Enright, Mary	Brookings
Erickson, Esther	Bruce
Erickson, Lottie	Bruce
Esteinson, Inga	Arlington
Etting, Ruth	Brookings
Fenn, Etola	Brookings
Fenn, Florence	Brookings
Fleming, Julia	Elkton
Fleming Loretta	Elkton

Franck, Mary	Brookings
Freeman, Ethyl	Volga
Frie, Forest	Brookings
Fredel, Amanda	Bruce
Fuller, Edda	Elkton
Gehant, Marie	Aurora
Getty, Janey	Brookings
Glen, Mary	Aurora
Grinols, Mavis	Brookings
Grinols, Violet	Brookings
Gullickson, Mabel	Hayti
Gunderson, Ida	Volga
Gunnison, L. L	DeSmet
Hammer, Mina	Volga
Hanson, Hazel	Brookings
Hastings, Alice	Brookings
Hays, Constance	Elkton
Heck, Anna	Elkton
Higgins, Ella	Elkton
Hoffman, Martha	Bruce
Hoffman, Theresa	Bruce
Holmes, Blanche	Brookings
Holmes, Margaret	Brookings
Hough, Orilla	Brookings
Hoy, Belle	Aurora
Irish, Mabelle	Brookings
Iverson, Selma	Brookings
Jamison, Nellie	White
Jensen, Dean	Brookings
Jensen, Gladys	Brookings
Jerde, Edith	Brookings
Jessen, Laura	White
Kirby, May	Volga
Kirby, Pearl	Aurora
Knutson, Frances	Brookings
Lamb, Clara	Brookings
Lambe, Matilda	Brookings
Lanphier, Harriett	Brookings
Lein, Myrtle	Brookings
Looysen, Sara	White
Looysen, Iva	White
Lorden, Agnes	Elkton
Lorden, Margaret	Elkton
Madden, Marieta	Brookings
Marshman, Grace	Brookings
McCarthy, Rosalia	Elkton
McFarlane, Majory	Brookings
McGill, Nadine	Brookings

McKibbin, Bessie	Lake Preston
McMillan, C. C	Lake Preston
Mitchell, Arthur	Volga
Moe, Jettie	Bruce
Murphy, Mae	Brookings
Mydland, Galena	Lake Preston
Nash, Gladys	Arlington
O'Brien, Rose	Elkton
O'Leary, Mary	Elkton
Otterness, Florence	Brookings
Parker, Rose	Bruce
Peterson, Helen	Brookings
Phillips, Blanche	Aurora
Peirce, Esther	Brookings
Platt, Ida	Viborg
Pogue, James	Brookings
Potter, Blanche	White
Purdy, Ruthe	Brookings
Randall, Lizzie	Hetland
Reppe, Ben C	Hendricks, Minn.
Revell, Alma	Brookings
Revell, Grace	Brookings
Revell, Marie	Brookings
Roberts, Ina	Elkton
Ross, Ethel	Arlington
Rude, Florence	Brookings
Rude, Lillian	Brookings
Rudolph, Rae	Aurora
Sanderson, Abbie	Brookings
Scott, Ethel	Volga
Seivert, Vera	Elkton
Severson, Mabelle	Brookings
Shepard, Helen	Brookings
Skinner, Margaret	Brookings
Slaymaker, Elizabeth	Brookings
Sloan, Margaret	Brookings
Smith, Mamie	Brookings
Smith, Nellie	Brookings
Soule, Neva	Brookings
Southard, Teena	Aurora
Spaulding, Ruth	Flandreau
Stead, Reva	Arlington
Stermer, Laura	White
Strong, Loretta	Elkton
Strong, Will	Elkton
Stumley, Emma	Volga
Stumley, Otelia	Volga
Towey, Alice	Elkton

Trooien, Mabel	Brookings
Trygstad, Charlotte	Brookings
Trygstad, Margaret	Brookings
Van Lanningham, Alice	Brookings
Van Lanningham, Isabella	Brookings
West, Ethel	Brookings
West, Pearl	Bryant
Wilson, Ella	Elkton
Wetzel, P. W	Elkton
Yule, Charles	Brookings
Yule, Gertrude	Brookings

TWO WEEKS AUTOMOBILE STUDENTS.

Bratberg, John	Utica
Brown, Cecil	Brookings
Bushnell, Edna	Brookings
Bushnell, J. H	Brookings
Cole, B. O	Alcester
Clark, O. T	Huron
Costlow, H. W	Wentworth
Dempewolf, Charlie	Harrisburg
Dempewolf, Alvin	Harrisburg
Fix, Henry	Garretson
Fowler, Harry A	St. Paul, Minn.
Gardner, J. J	Brookings
Green, Mrs. B. T	Brookings
Grinnell, Ivan	Beresford
Iverson, Alfred	Brandon
Johnson, J. T	Watertown
Johnson, Helman	Brookings
Johnson, I. L	Huron
Jackson, M. A	Egan
Cringen, P. L	Coleman
Merriman, H. R	Carpenter
McQueen, H. E	Harrold
Nelson, Frank G	Huron
Olsen, Bernhard	Utica
Onstine, Wendell	Flandreau
Sanders, Fred	Huron
Solberg, Harry	Brookings
Ulstad, Carl	Coleman
White, Charles A	White Lake

SUMMARY.

Graduate Students		11
Collegiate Students—		
Seniors	34	
Juniors	30	
Sophomores	68	
Freshmen	114	
Specials	29	
		275
Preparatory Students—		
Third Year	27	
Second Year	22	
First Year	30	
		79
Music Students	92	
		92
School of Agriculture—		
Third Year	36	
Second Year	61	
First Year	132	
		229
Short Course Students—		
Steam Engineers	38	
Three Months Dairy	36	
Three Months Creamery	24	
Two Weeks Agriculture	34	
Two Weeks Automobile	29	
		161
Summer School Students	147	147
Total		994
Names Repeated		91
Net Total		903

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LOCATION

The State College of Agriculture and Mechanic Arts is located upon eminence one mile from the business center of the city of Brookings, and four miles from the Big Sioux River. Brookings is situated on the Central Dakota Division of the Chicago and North-Western Railway, the Watertown branch of the same road making connection with the main line at this point. The city has a population of about three thousand five hundred thrifty, intelligent and hospitable people. It is lighted by electricity and has a complete water and sewer system, owned by the municipality.

The streets are lined with trees and there are very few houses without well kept lawns, upon which are growing trees, beautiful flowering shrubs and plants. It has often been called the City of Homes.

It is a city of clean morals. No saloon has been allowed within its limits for several years. In the general election of 1896 Brookings County was the banner county of the state in its vote against allowing intoxicating liquors to be sold in the state. In the spring election of 1898 the proposition to allow saloons within the city limits was defeated by a vote of three to one.

STATE COLLEGE OF AGRICULTURE AND MECHANIC ARTS
SOUTH DAKOTA
STATE OF SOUTH DAKOTA
UNDER GOD THE PEOPLE RULE
GREAT (1889) SEAL

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